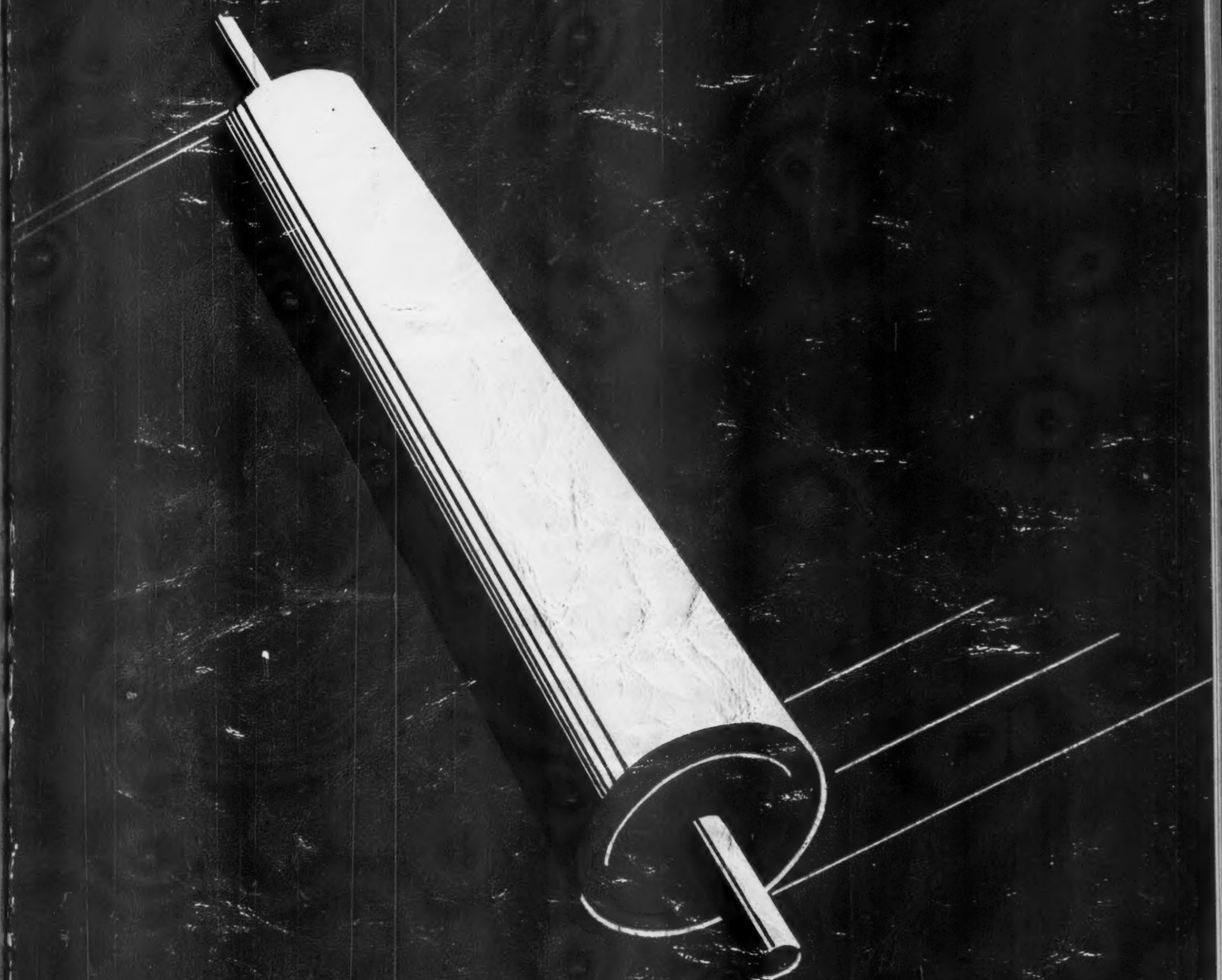
PRINTING EQUIPMENT ENGINEER



A TECHNICAL PUBLICATION FOR MECHANICAL EXECUTIVES IN THE GRAPHIC PRODUCTION AND ARTS INDUSTRY

Intertype Announces FOUR New Models

Studies made by Intertype engineers in the field have shown that the greatest benefit to a newspaper composing room can be attained by enlarging the magazine capacity of line composing machines so as to reduce the loss of time in removing and replacing magazines. As a result of these studies we are now presenting additional magazine capacity on four of our leading models.

Any of
be equip
Autospa
feature.

STEP AHEAD WITH TSI

4-magazine Model C

GENERAL PURPOSE NEWS AND AD MACHINE. Carries four standard 90-channel magazines, each of which accommodates matrices up to wide 18-point.

4-magazine Model F (Mixer)

FOR STRAIGHT MATTER, FOOD ADS, DISPLAY, etc. Carries four standard 90-channel magazines, each of which accommodates matrices up to wide 18-point.

4-magazine Model G (Mixer)

COMBINATION TEXT AND DISPLAY MACHINE. Carries two standard 90-channel magazines, each of which accommodates matrices up to wide 18-point, and two wide 72-channel magazines, each of which accommodates matrices up to wide 30-point (and some faces in even larger sizes).

4-magazine Model H

WIDE-MAGAZINE HEADLETTER AND DISPLAY MACHINE. Carries four wide 72-channel magazines, each of which accommodates matrices up to wide 30-point (and some faces in even larger sizes).

FEATURES

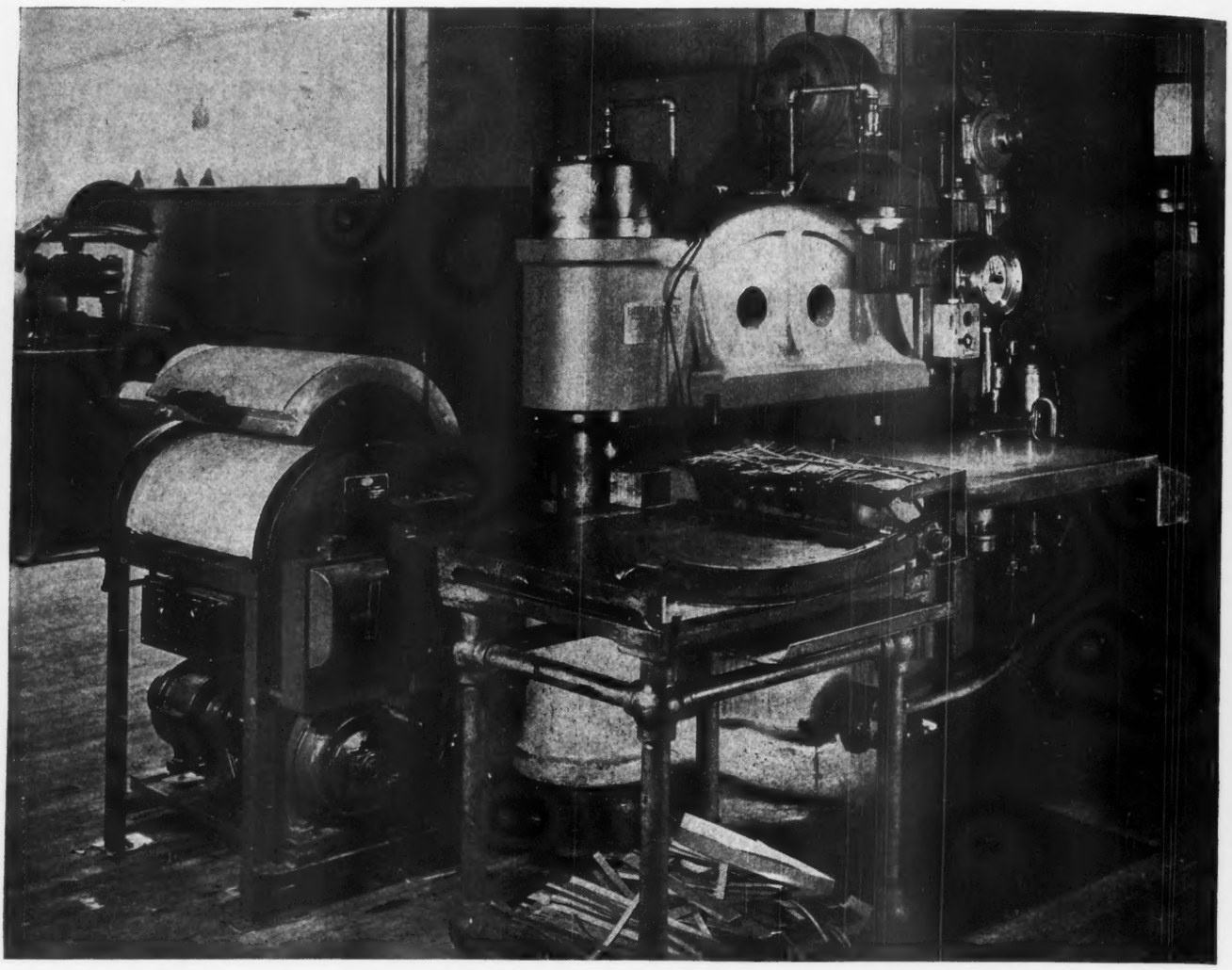
1. From 33 to 100 per cent increased matrix capacity — without replacements of magazines.
2. On Models F and G quick and easy changes from one magazine to another are made by means of finger-flip control, and changes from one pair of magazines to another are made by the Intertype light-action chain shift.
3. Quick and easy replacements of magazines from the front of the machine on each of these models are made by means of Intertype's labor-saving sliding magazine carriage.
4. Full-length or split magazines can be used in any position.
5. Split magazines on all these models can be either half-length or three-quarter length, as preferred.

Any of these new models can be equipped with the Intertype Autospacer including Low-Slug feature. See ad on back cover.

SE NEW INTERTYPES

Set on the Intertype in Vogue family. Stick attachment used for larger sizes

THE FLORIDA TIMES-UNION



Interesting picture of a highly efficient mat-producing arrangement; The Birotadruck, mat trimming shear and **Stahi Autoformer** in the Plant of The Florida Times-Union, Jacksonville, Florida. A newspaper with 75,000 daily press run, employing The **Stahi Autoformer** to splendid advantage in maintaining molded depth of mats, plus Uniform Casting and Printing Levels. Such overwhelming preference for **The Autoformer** is no accident.

STAHI NEWSPAPER SUPPLY COMPANY, INC.

1020 CROCKER STREET
LOS ANGELES, CALIF.

417 OREGONIAN BLDG.
PORTLAND, OREGON

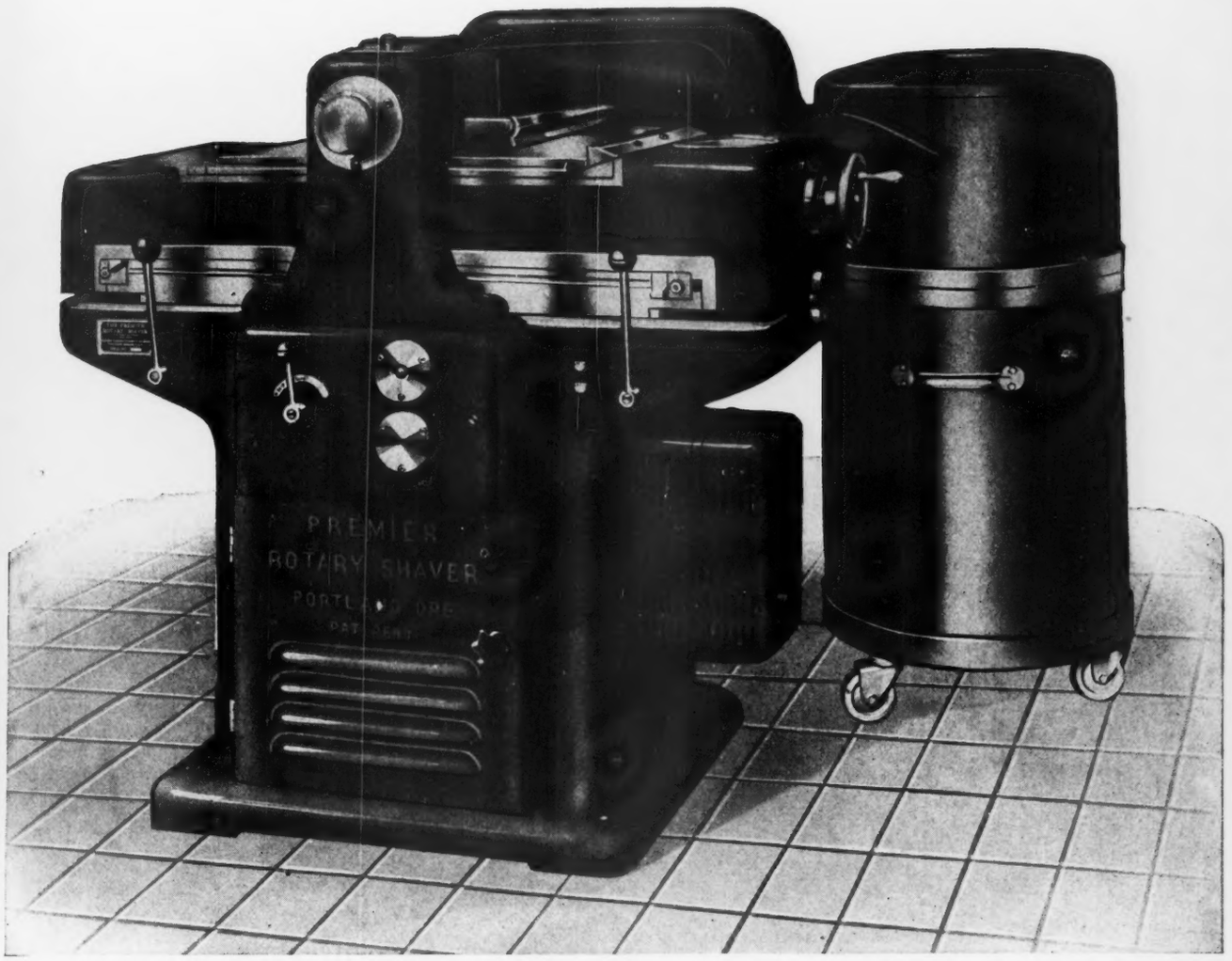
AGENCIES:

GOSS PRINTING PRESS COMPANY, Chicago, New York, San Francisco
CERTIFIED DRY MAT CORPORATION, 342 Madison Avenue, New York
DUPLEX PRINTING PRESS COMPANY, Battle Creek, Michigan
WOOD FLONG CORPORATION, Hoosick Falls, New York
BURGESS CELLULOSE COMPANY, Freeport, Illinois
R. HOE & COMPANY, New York, Boston, Chicago, San Francisco

Foreign Agencies:

GOSS PRINTING PRESS COMPANY of London, England
A. M. CARNEIRO & COMPANY, New York, N. Y.
TORONTO TYPE FOUNDRY COMPANY, Ltd., Toronto, Montreal, Winnipeg, Canada

PREMIER MARCHES ON



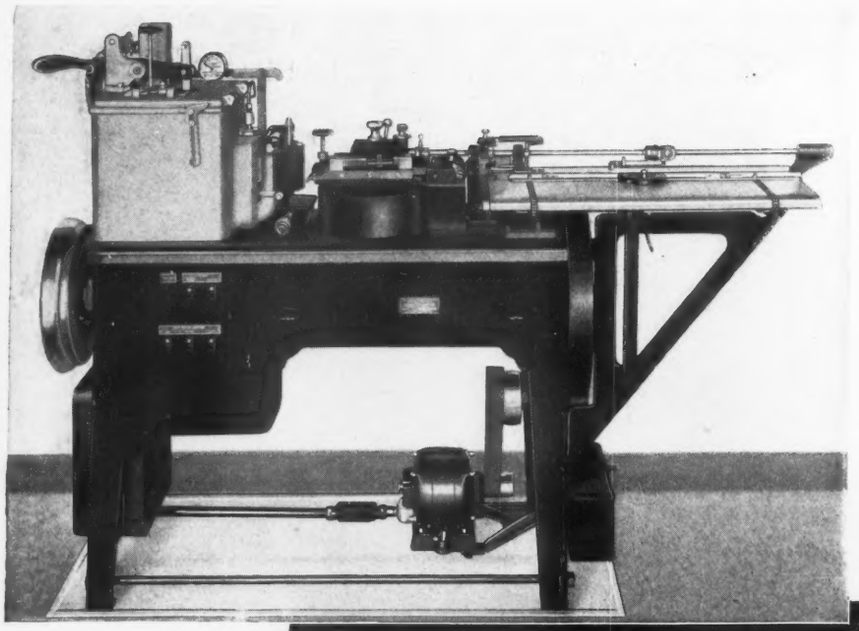
The Premier Rotary Shaver, because of its outstanding performance and accuracy of product, has been ordered by The Portland, Oregon, News-Telegram, for milling all flat work with close tolerances.

The Premier Rotary Shaver is now equipped with **Variable Speed Bed Travel,** accomplished mechanically with a three speed transmission, by merely shifting the central lever as illustrated above. Vast improvements in efficiency, precision and speed are possible with **The All Rotary Premier.**

STAHI NEWSPAPER SUPPLY COMPANY, INC.

1020 CROCKER STREET
LOS ANGELES, CALIF.

417 OREGONIAN BLDG.
PORTLAND, OREGON



ELROD simplicity assures

—ample strip material supply
—with economy of operation

THE Elrod lead, rule, slug and base caster is characterized by the utmost mechanical simplicity. It requires from the operator only occasional attention, to keep it supplied with metal and to take away the finished product.

Improved oil feed and special Elrod oil have further reduced the amount of operating attention required.

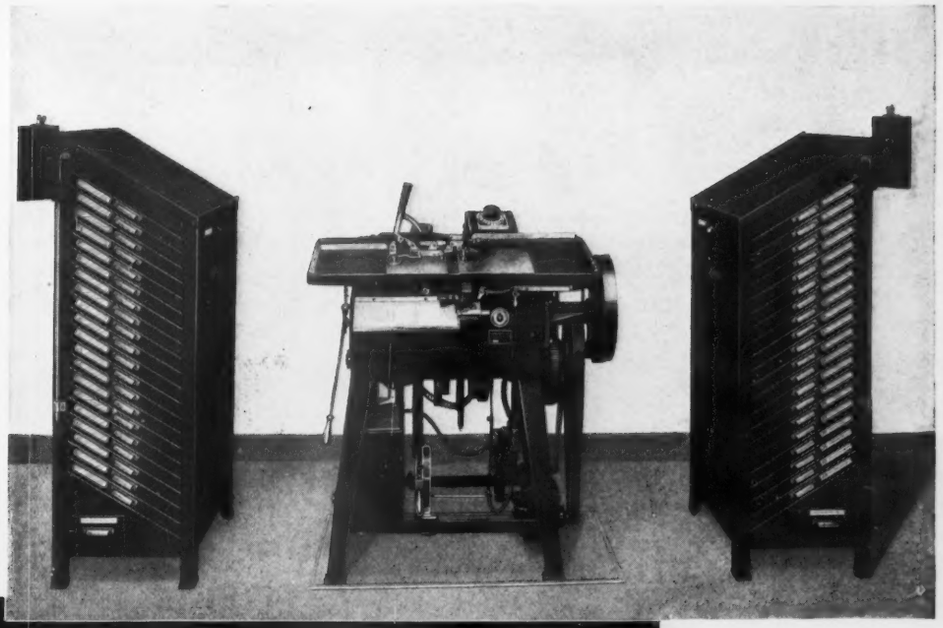
Twin molds provide for the production of two strips at a time, thereby increasing the volume of strip material produced. Cored molds for the larger point sizes reduce metal consumption.

Elrod strip material, ranging in thickness from 1-point to 36-point, is drawn in a continuous strip from the crucible. Freedom from brittle breaks, welds, and air bubbles makes for accuracy and solidity. Elrod-cast base and rule stand up under even the most severe stereotyping pressure.

A generous supply of strip material makes for composing room economy. Leads and slugs always ready to the compositor's hand, new sharp rules for borders, and an ample supply of base material are primary necessities.

LUDLOW TYPOGRAPH COMPANY
2032 Clybourn Avenue • • Chicago, Illinois

Set in members of the Ludlow Tempo family



LUDLOW flexibility makes easy

–changes from one face to another
–changes from one size to another

SINCE the very essence of effective display is variety in typeface style and point size, the ability to make frequent face and style changes quickly and economically must characterize any efficient method of producing display composition.

You need display lines when you need them and as the copy comes in. Obviously, the lines in each particular face and point size in a day's issue cannot be accumulated, to be set at one time. Two lines are needed now—five lines ten minutes later. And so it goes.

This prime requirement of practical and efficient flexibility is fully met by the Ludlow system—with type on slugs, new for every ad. In fact, this largely accounts for the very origin and development of the Ludlow, and its very general use today.

With the Ludlow, going from one typeface or size to another means only going from one matrix case to another, *immediately* setting lines of matrices *directly* from the case, and *instantly* casting the slug—without a machine change of any kind whatever.

No newspaper can afford to use any system which encourages a sacrifice of typographic effectiveness. The Ludlow system promotes and provides *real* display, and enables you to produce it efficiently and economically.

LUDLOW TYPOGRAPH COMPANY
2032 Clybourn Avenue • • Chicago, Illinois

Set in members of the Ludlow Tempo family

First to go to press when the floods receded were papers equipped with GOODRICH ROLLERS

"Hoe presses submerged and paper rolls floating in the pressroom of the Grit, Williamsport, Penna."

The moment the March floods in New England, New York and Pennsylvania receded, newspapers using Goodrich Rubber Rollers were able to go to press—days ahead of competitors. Not a single Goodrich Roller in the flood had to be replaced.

Safety from harm by water is only one of the many vital values Goodrich Rollers assure. Their efficiency doesn't change with the thermometer. Even blistering summer heat or intense winter cold have no effect on them. Printing costs are lowered because they eliminate shut-downs for washup and resetting. Regrinding adds extra years of wear to their already long life. And last, but not least, these rollers are circulation builders because they turn out better printing.

Goodrich Rubber Rollers have "scooped" the field through their ability to meet the emergencies as well as the everyday requirements of gruelling service. Evidence of their acceptance may be found in hundreds of pressrooms, both large and small, where Goodrich is specified 100%.

For prices and complete information, including names of users near you, where you can see Goodrich Rollers in action, write—Niles & Nelson, Inc., New York.

A few of the many newspapers in the flood area which were able to go to press as the water receded, without replacing a single Goodrich Roller:

Hartford Courant
Haverhill Gazette
Johnstown Democrat
Johnstown Tribune
Lawrence Eagle-Tribune
Lewistown Sentinel
Pittsburgh Post Gazette
Pittsburgh Press
Springfield Republican
Springfield Union
Tyrone Herald
Wilkes Barre Times-Leader
Williamsport Grit
Williamsport Sun-Gazette

Goodrich *Printers'* Rollers

NILES & NELSON, INC., EXCLUSIVE DISTRIBUTORS
75 West Street, New York · 400 West Madison Street, Chicago, Ill.

When the Miller representative suggests that NOW is the time to buy a Miller Simplex Automatic, he has sound reasons.

1. Printing equipment manufacturing costs have already advanced, and there is plentiful evidence that both labor and materials costs will go higher. Buying now protects you against the penalty of price increases.

2. The financing of purchases is easy now, government credit plans being exceptionally attractive. Changing conditions may quickly alter present-day credit opportunities.

3. Competitive conditions demand modern equipment in the print shop. Don't wait until you have a reputation for high prices and slow delivery.

It's good advice when we say "Buy NOW!" And the NEW Miller Simplex Automatic has exceptional capacity for producing fine printing at low cost.

4500 unhurried impressions per hour. Maximum sheet size 20″ x 26″, minimum sheet size 8½″ x 11″. Tachometer, totalizer and automatic oiling are standard equipment.

Please write for full details.

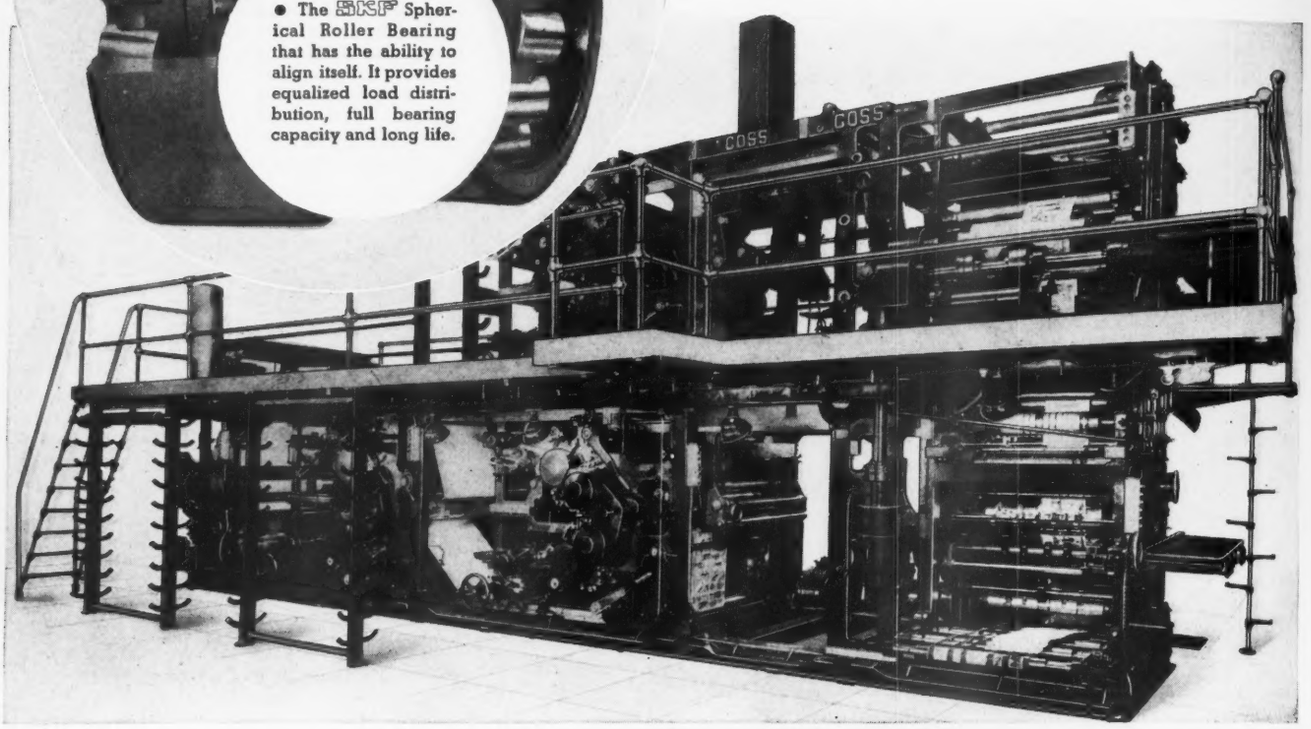
miller

MILLER PRINTING MACHINERY CO., PITTSBURGH, PA. *Branch Offices;* BOSTON, NEW YORK, PHILADELPHIA, CHICAGO and SAN FRANCISCO *Agents:* CALIFORNIA PRINTERS SUPPLY CO., Los Angeles, California; LANCE COMPANY PRINTER'S SUPPLIES, Dallas, Texas; J. H. SCHROETER & BRO., INC., Atlanta, Georgia

• The SKF Spherical Roller Bearing that has the ability to align itself. It provides equalized load distribution, full bearing capacity and long life.

GOSS

HIGH SPEED MAGAZINE PRESS



3638

HIGH SPEED PRESSES NEED SKF BEARINGS

● Hour after hour, with production limits up to 60,000 sixteen-page signatures per hour, this New High Speed Goss Magazine Press performs faultlessly for the Simplicity Pattern Co., Inc., Niles, Michigan.

In building it, Goss made certain of dependability and a top speed of 15,000 cylinder revolutions per hour by specifying SKF Bearings for impression and plate cylinders and drive mechanism.

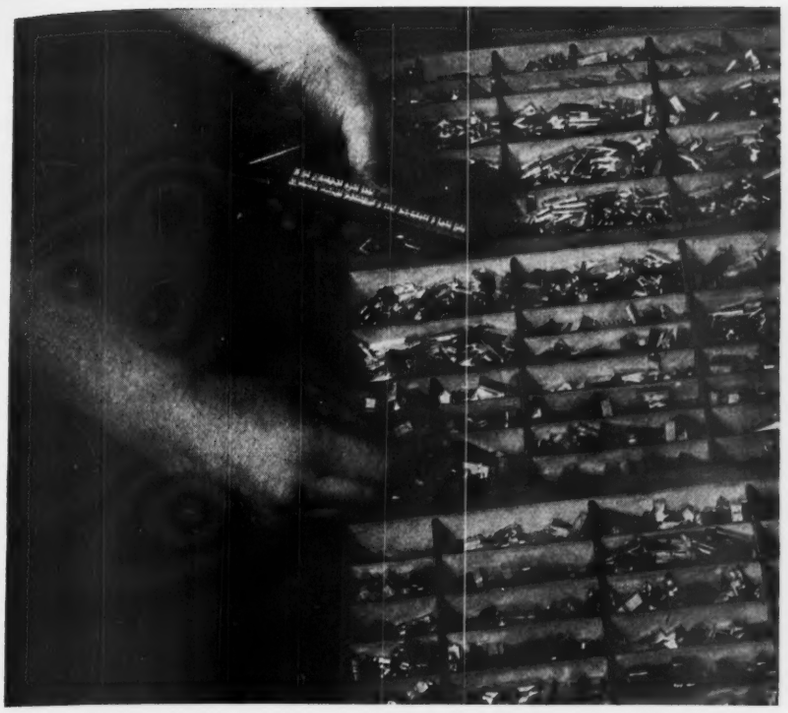
Consequently, there are no difficulties due to vibration, cylinder jump, surging, back lash or web breakage.

This means, of course, dynamic balance of rotating parts *all* the time. The Goss Printing Press Company keeps step with quicker and better ways of doing things by using SKF Bearings. For SKF has kept stride with new designs ever since they pioneered in the printing industry in 1915.

SKF INDUSTRIES, INC.
FRONT ST. & ERIE AVE., PHILADELPHIA, PENNA.

SKF

BALL AND ROLLER BEARINGS



A B C D E F G H I J K L M N O P Q R ■ S T U V W X Y Z & A B C D E F

SINGLE TYPES are BEST

In the Sixth Exhibition of Newspaper Typography, in competition for the Frances Wayland Ayer Cup, the following winners in the three classes operate Monotype Machines for casting Type and Material used in composition of display ads and heads:

Circulation Over 50,000

1st—Herald-Tribune, New York—
(Permanent Possession of Cup)
One Monotype Giant Caster, Two Type-&-Rule Casters, Monotype-Thompson Type-Caster, One Monotype Material Maker.

2nd—Times, New York—
One Monotype Giant Caster, One Type-&-Rule Caster, Three Material Makers, Five Keyboards, Six Composition Casters.

3rd—Post, Washington, D. C.—
One Monotype Type-&-Rule Caster, Two Monotype Material Makers.

10,000 to 50,000 Circulation

1st—Evening Times, Trenton, N. J.—
One Monotype Giant Caster, Two Type-&-Rule Casters, One Material Maker.

3rd—Press, Sheboygan, Wis.—
One Monotype Giant Caster, One Type-&-Rule Caster, One Material Maker.

Up to 10,000 Circulation

2nd—Daily News, Beloit, Wis.—
One Monotype Giant Caster, One Material Maker, One Type-Caster.

Although five hundred years have elapsed since Gutenberg first composed single types in his invention of printing, no other method of typesetting has been developed which provides an equally good surface for printing.

Single-type composition has that flexibility which finds its expression in the proper fitting of characters and greater convenience in allowing for cuts, initials, etc. It gives unequalled facility in letter-spacing and word-spacing. Single types compose better and give a better impression on paper, make better stereo mats, and reproduce more faithfully when photographed for gravure printing.

Approximately seven hundred daily newspapers in the United States and in Canada now operate Monotypes for casting type and decorative and spacing material for use in setting display composition by hand. They find the Monotype System best for producing display advertisements, as well as the fastest and the most economical.

LANSTON MONOTYPE MACHINE CO.

Monotype Building, 24th and Locust Streets, Philadelphia, Penna.

Composed in the Monotype Stymie Series

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z & A B

THE UNITUBULAR

WILL GIVE YOU THESE ADVANTAGES—WHY NOT CHECK THEM AGAINST YOUR PRESENT EQUIPMENT

Only one plate to cast for each page.

Only one plate to cast for each color, therefore, one plate to register.

Color on any or all pages without cutting down the page capacity.

Interchangeable color fountains.

Double drum ink distribution with one drum vibrating in addition to vibrating rollers.

Forged steel plate cylinders with micrometer straight line adjustment.

Single control positive-automatic balanced pressure quick lock-up.

All plating done at a convenient height.

Marginal and circumferential register controls on plate cylinders.

One extra paper roll per unit.

Electric roll hoist, if desired.

Anti-friction bearings.

Automatic web tension.

Remote control of side lay and tension adjustments.

True unit type construction.

No complicated web leads.

Tucker blade adjustment while press is in operation.

Folder placed in any position with respect to units.

Balloon or auxiliary formers available for sectional products.

Clear passageways between units.

All parts safely protected on both drive and plating sides by streamlined guards.

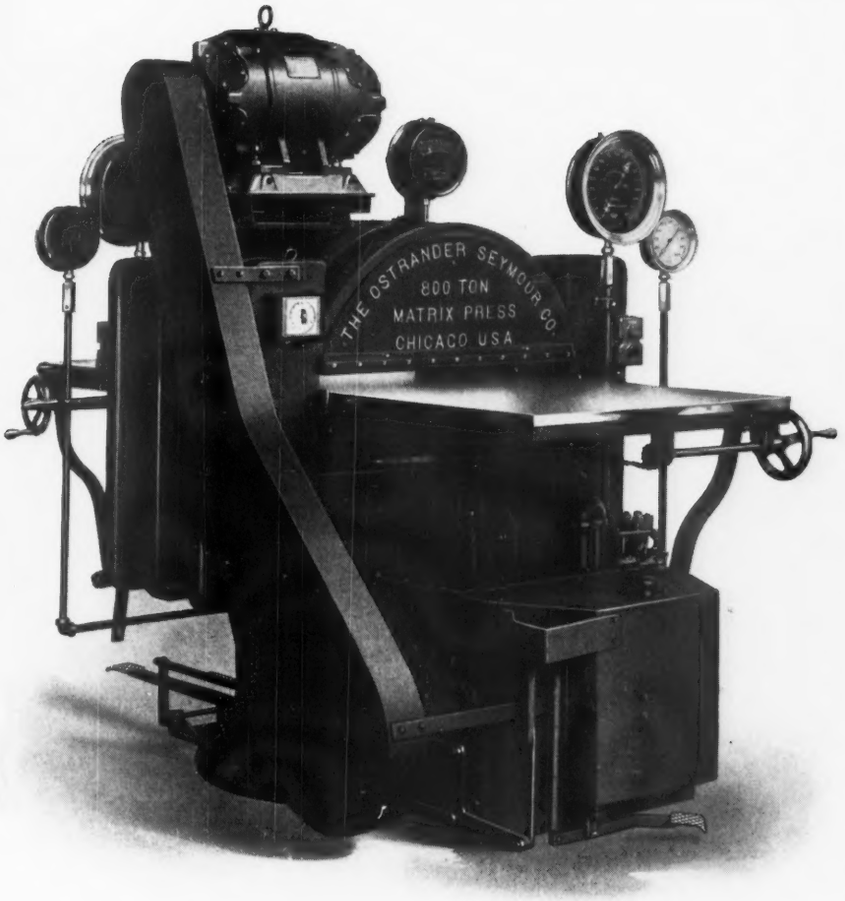
Each unit delivered factory erected.

THE DUPLEX PRINTING PRESS CO.

BATTLE CREEK, MICH.

OUR CUSTOMERS WRITE OUR ADS

The Ostrander Seymour Direct Pressure Matrix Molding Press



Designed and Constructed by the World's Largest Producer of Printing Plate Making Equipment.

SPECIFICATIONS

Size of Platens—32 x 25 inches,
Clearance between Uprights—32 inches,
Opens to 1⅞ inches; closes to 1/16 inch,
Maximum Pressure—800 tons on 22 inch ram,
Floor Space—4 feet by 7½ feet,
Weight, assembled—12,000 pounds.

Standard Equipment—

Five horse-power, 1750 r.p.m. motor, controller and front and rear push-button stations, Three-strand Texrope transmission, with safety guard, Electrically heated and thermostatically controlled lower platen; twelve 1250 watt dry elements; automatic heat control from room temperature to 600° F.

Water-cooled insulating platen between heated platen and ram.

Manually operated front and rear sliding aprons,

Front and rear hand and foot operating controls,

Front and rear automatic high and low pressure gauges,

Timeostat timing device,

Removable blanket for cold molding.

Especially developed for rapid production of highest quality stereotype mats from plastic, semi-plastic, wet and dry flongs.

BACK of The Ostrander Seymour 800 ton direct-pressure matrix press is over 60 years of successful experience in the designing and building of printing plate molding equipment, and into this particular machine has been incorporated every tested and approved feature which has contributed to the high standing of all Ostrander hydraulic equipment. More than 800 Ostrander hydraulic presses now are in daily operation, that number being in excess of four times those installed by all other makers combined. One plant operates 20 Ostrander hydraulic presses of various tonnage capacities; hundreds use from that number down to a single press. The machine, except for the electrical equipment and gauges, which are of the highest grade obtainable from the world's most reliable manufacturers, is produced entirely in the Ostrander factory, no assembly parts from uncertain sources being employed. Attention is particularly directed to the fact that the platen is guided entirely by the ram; no shoes or other sliding parts operate on the frame. The minute space of .0015 between ram face and cylinder wall constantly insures accurate molding; will mold and dry from a single line to a full newspaper page.

Ostrander direct pressure matrix presses are installed in the country's largest and best known establishments, having been selected after extensive investigation and on recommendation of users.

Ostrander Seymour Machinery is the acknowledged standard of the World

EVERYTHING FOR THE STEREOTYPER, ELECTROTYPER AND PHOTO ENGRAVER

The Ostrander Seymour Company

1870 South 54th Avenue Cicero Station Chicago, Ill.

EASTERN OFFICE, CHRYSLER BUILDING, NEW YORK CITY

COST CUTTER SAWS

(Just What the Name Implies) *for*

Greater Composing Room Efficiency

Greater accuracy

•

Quicker, easier handling

•

More positive Work Holding Clamp

•

Better method of grinding and setting Trimmer Knives

•

Smoother operation

•

Greater provision for taking up wear

•

Finer construction

•

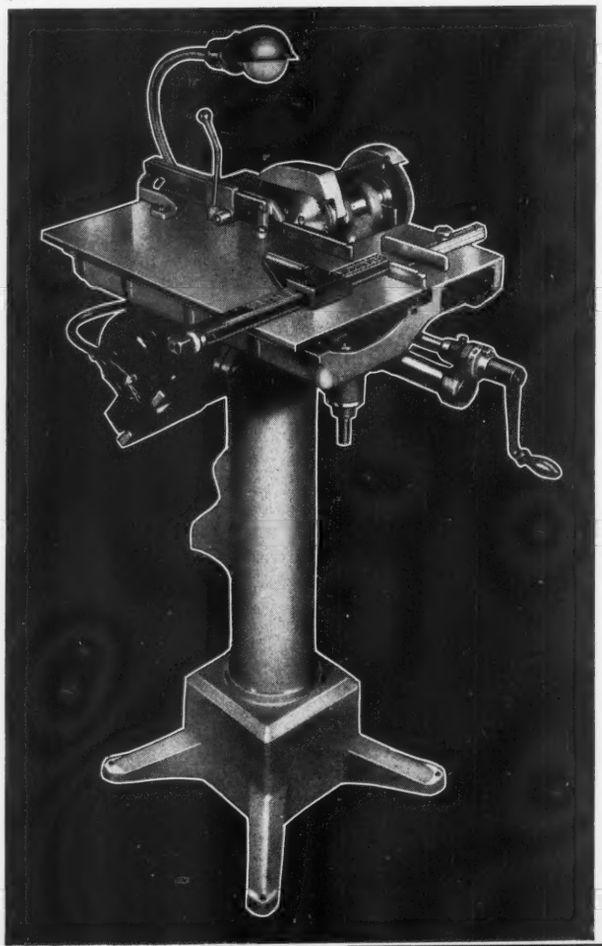
Longer life

•

Lower maintenance

•

Greater profits to users



•

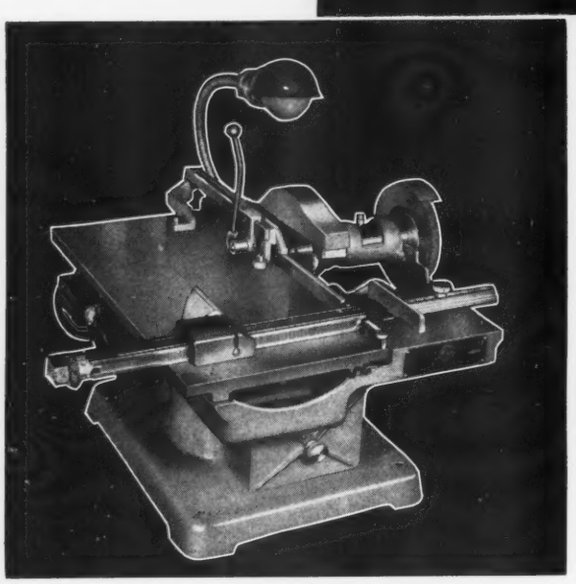
No composing room can be efficient without a modern saw. Pressroom profits are dependent on the accuracy of the forms sent to it.

•

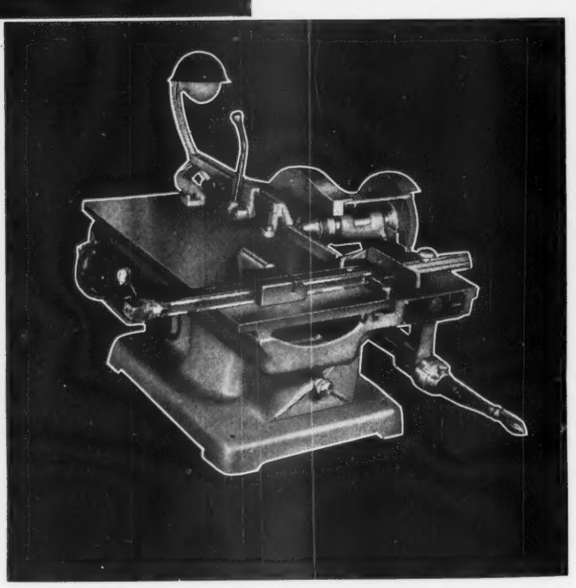
Is your saw modern?

•

MODEL B COST CUTTER illustrated at the left incorporates many features not found in other saw-trimmers, and it has proven a real profit producer in most of the world's leading plants.



MODEL A COST CUTTER, illustrated above, is unequalled as an auxiliary saw for the larger plant, or an all-purpose saw in the smaller office.

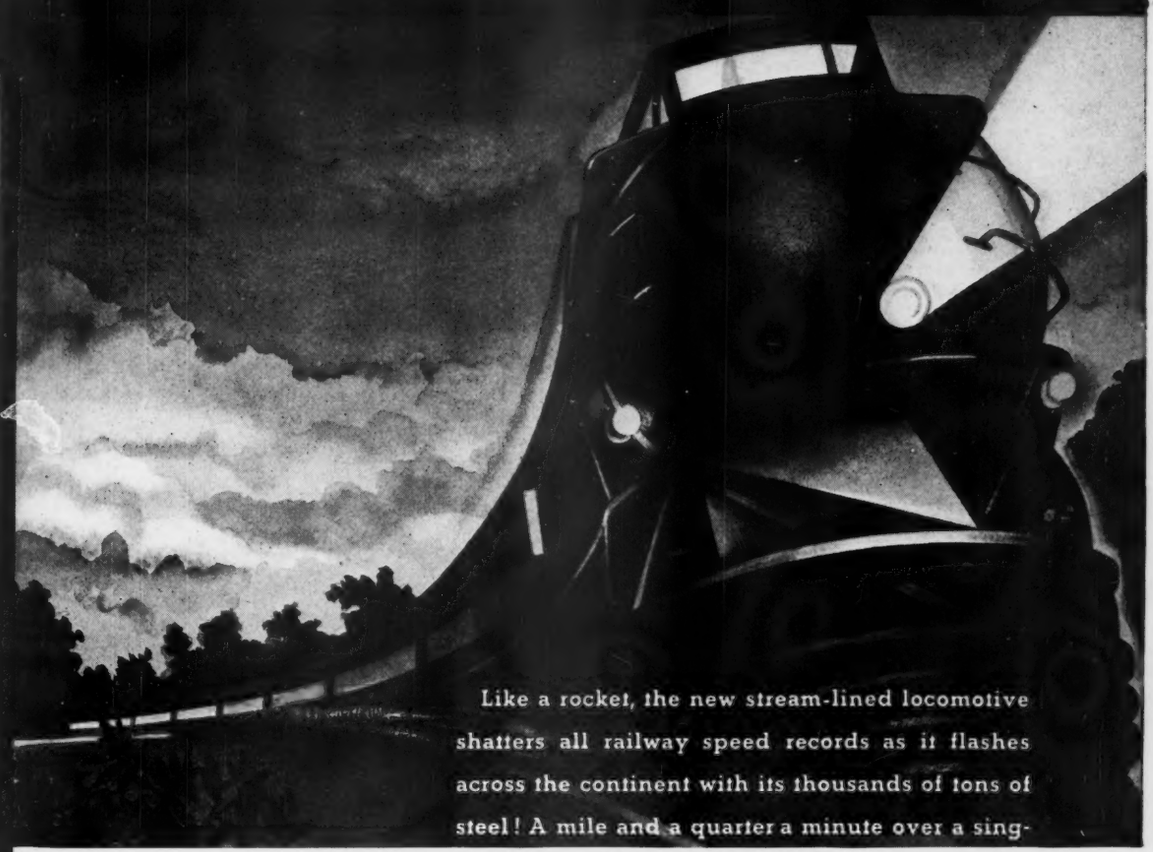


MODEL C COST CUTTER, illustrated above is a bench saw with elevating and lowering head—mechanically controlled—that will satisfactorily perform all sawing and trimming operations coming within the range of a rotary saw-trimmer.

. . . Write for Complete Description and Prices . . .

C. B. NELSON & COMPANY—720 SO. DEARBORN STREET—CHICAGO, ILLINOIS

LEADERSHIP



Like a rocket, the new stream-lined locomotive shatters all railway speed records as it flashes across the continent with its thousands of tons of steel! A mile and a quarter a minute over a singing ribbon of track! — **And with an extra 15 miles an hour always in reserve! A far cry from the "iron horse" of 1840!...And Morrill Inks, Standard of the Newspaper World since 1840, today lead the field of news black and color inks. Paced always ahead of increasing demands made by bigger, faster presses, Morrill Inks meet all requirements — with reserve extra quality to spare. Morrill Inks do *more* than you expect of them.**

★ LEADERSHIP

. . . In 1935 Morrill delivered, in *excess of* 1934, 5,019,003 lbs. of news black and 714,043 lbs. of news color inks. Morrill is the world's largest manufacturer of news black and color inks.

Inks BY

GEO. H. MORRILL CO.

Division GENERAL PRINTING INK CORPORATION

100 Sixth Avenue **New York, N. Y.**

Factories — Norwood, Mass. • Tacony, Philadelphia, Pa. • Chicago, Ill. • San Francisco, Cal.
Branches — Boston • New York • Philadelphia • Detroit • Chicago • St. Louis
Minneapolis • Fort Worth • Los Angeles • San Francisco • Seattle

STANDARD OF THE NEWSPAPER WORLD

Trade C & G Mark

Built for 20 Years of Dependable Saw Trimming

These features have been built into C & G Saw Trimmers to provide long life and dependable saw trimming service for many years:

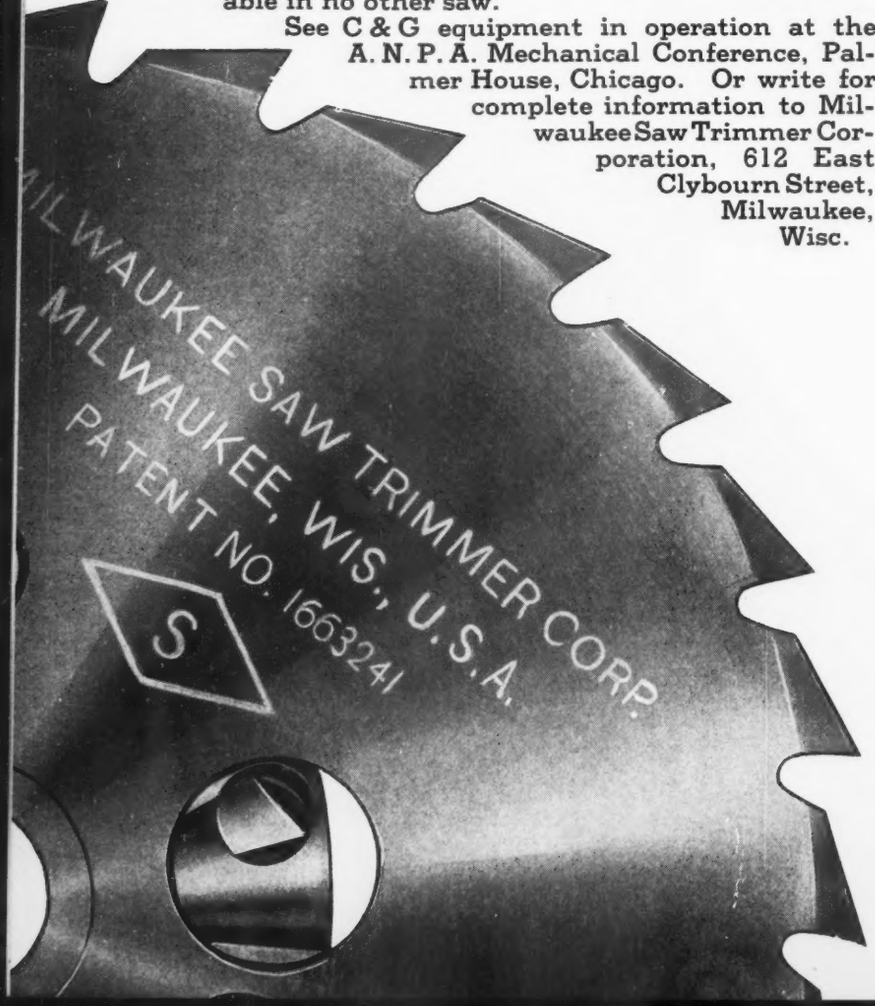
Sturdiness of construction for extra hard usage. Extra heavy saw bearings, built to micrometer gauge, eliminate possibility of side-play while sawing or trimming. The exclusive C & G positive workholder which contributes greatly to accuracy. Negligible parts replacement. Low operating cost.

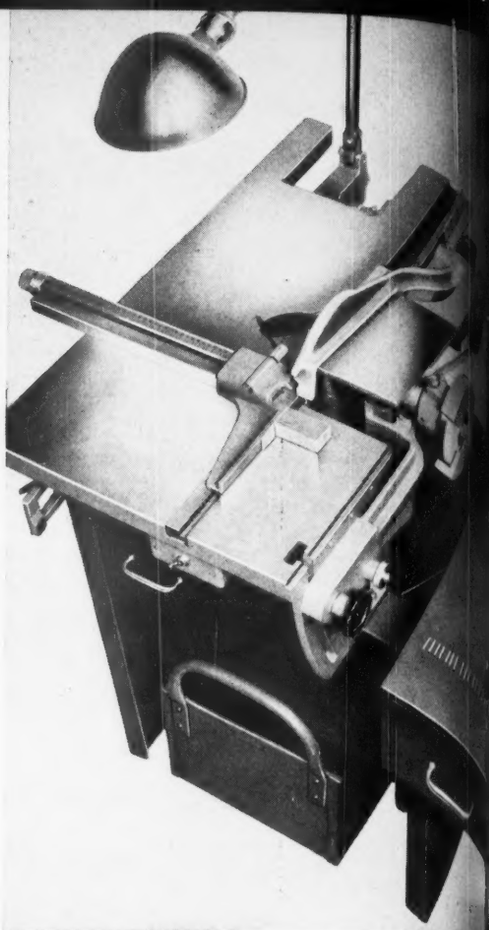
These are some of the reasons why C & G Saw Trimmers have the endorsement of hundreds of printers and publishers.

The Model No. 2 C & G Saw Trimmer accommodates practically all regular sawing in the composing room. The large table top is readily adjustable to any position for undercutting or outside mortising. Change of position is easy and accurate.

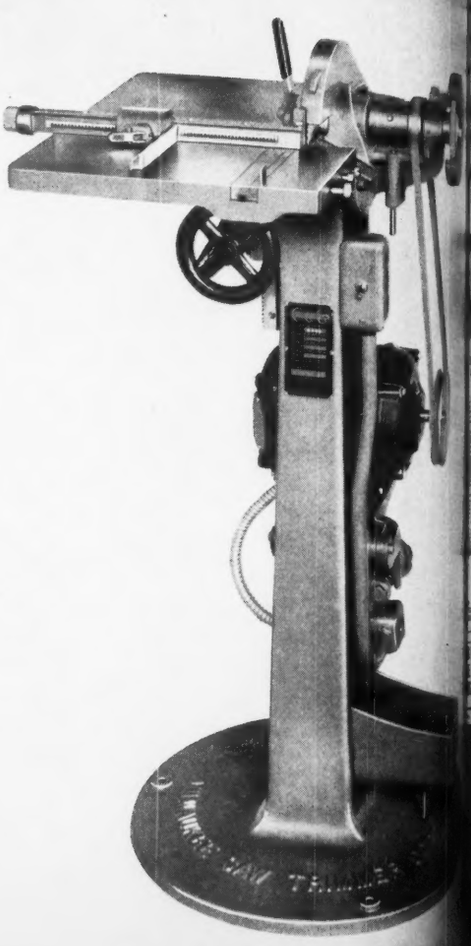
The No. 3 C & G Cabinet Model Saw Trimmer affords a wide work range, and positive chip and waste disposal. It has many exclusive features of convenience which contribute to its high speed efficiency. It has special advantages in cut blocking and lineup available in no other saw.

See C & G equipment in operation at the A. N. P. A. Mechanical Conference, Palmer House, Chicago. Or write for complete information to Milwaukee Saw Trimmer Corporation, 612 East Clybourn Street, Milwaukee, Wisc.





No. 3 C & G SAW TRIMMER



No. 2 C & G SAW TRIMMER

Chicago Daily Tribune
FINAL
2 CENTS
Stock, Bond and Curb Markets in New York Closed Today
BUFFALO EVENING NEWS
FINANCIAL
THE DENVER POST
The Des Moines Register
The Detroit News
The Washington Post
New Haven Evening Register.
CITY EDITION
THE MILWAUKEE JOURNAL
Herald Examiner
FINAL
The Sun
HOME EDITION
Winnipeg Free Press
DAILY NEWS
NEW YORK JOURNAL
METROPOLITAN SECTION
CITY EDITION
Omaha World-Herald
ROCHESTER TIMES-UNION
ST. LOUIS POST-DISPATCH
NIGHT SPORT SPECIAL
The Salt Lake Tribune
Oregon Journal
THE CHRISTIAN SCIENCE MONITOR
YANKEES
DODGERS
DAILY EAGLE
SPORTS COMPLETE
The Dallas Morning News
The Florida Times-Union
THE KANSAS CITY STA
CITY EXTRA
The Scranton Times.
ENQUIRER
Cleveland Pres
Seven Tampans To Go On Trial In Flog
The Atlanta Journal

NEW YORK
Herald Tribune
LATE CITY EDITION
WEDNESDAY, MARCH 4, 1936
Roosevelt Asks Congress For $1,600,000,000 Tax On Corporate Surpluses
New Dealers Get Wires of 1,000 Critics
British Reveal Vast Program Of Arm
Strike Peace Talks Fail, But Walkout Slows Up; Mark Third Day
Calls for Most Drastic Tax Structure Revision Since 1913; Seeks to Force More Dividends
Advocates Repeal Of Existing Levies
Program, to Yield Net of $620,000,000, Not Retroactive; 'Windfall' Assessment Is Proposed
The Proposed Tax Program
President Plans Nearly 2 Billion More for Relief
5,000 Strikers in Park Av. March Smash Glass in Apartments, Clash With Police in Streets
Trinity Corporation Settles With Union
Facsimile of front page of prize-winning issue — printed on Goodyear Press Products
THE WINNER
GOODYEAR congratulates The New York Herald Tribune on winning permanent possession of the Francis Wayland Ayer Cup for typographical excellence in the 1936 competition just ended. As in 1931 and 1934, this year's prize-winning entry was printed on a press equipped 100% with Goodyear Rubber Underpacking, Goodyear Red Top Felt Blankets and Goodyear Ink Rollers.
Second and third place winners were likewise users of Goodyear equipment — clinching evidence of the superiority of these press-proved products. Let us tell you how you can secure blue-ribbon printing at low cost. Write Goodyear, Akron, Ohio, or Los Angeles, California.
Branches in all principal cities.
THE GREATEST NAME IN RUBBER
GOODYEAR
MORE NEWSPAPERS ARE PRINTED ON GOODYEAR RUBBER UNDERPACKING THAN ON ANY OTHER KIND

MAY 1936
Volume 52—No. 2

PRINTING EQUIPMENT ENGINEER

Trade-Mark Registered U. S. Pat. Office

A Technical Publication for the Mechanical Executive Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Field

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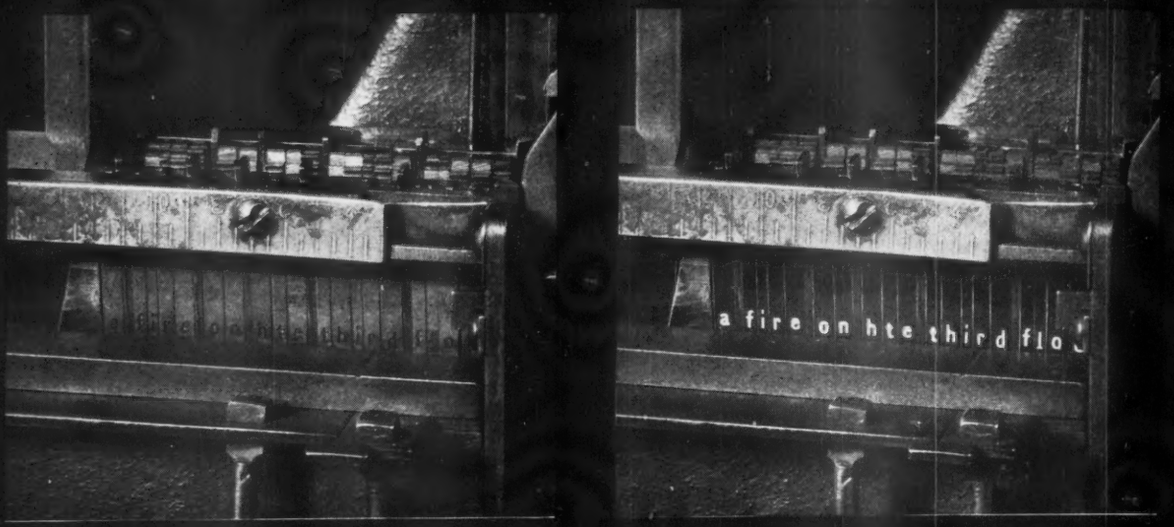
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Equipment and Supplies Exhibits

The equipment and supplies exhibits this year are expected to surpass those of any previous Conference, both in number of exhibitors and the variety of equipment and supplies. The exhibits will be located in the Exhibition Hall which is near the elevators and a few steps lower than the fourth floor. More than forty booths have been reserved.

Newspaper Exhibit

An exhibit of British, Colonial and foreign-language newspapers from other countries will be a feature at the Chicago Mechanical Conference. This will enable the delegates to compare the printing of foreign newspapers with our own.

Manager W. E. Wines states that a questionnaire requesting information concerning printing conditions and equipment has been sent to British and Irish Free State newspapers. This questionnaire is similar to the one sent to A. N. P. A. members last year, and will be posted alongside the printed copies as was done at Detroit.

Duplicate copies of the newspapers winning awards in the Ayer prize competition will also be displayed.

Progress

In Newspaper Production Technique To Be Shown At Mechanical Meet

By Staff Writer

THE desire for improvement in newspaper printing technique continues unabated. It would be difficult to forecast the ultimate shape, size and form of tomorrow's newspaper. It seems that immediate improvements in the processes employed at present will take place in photoengraving, stereotyping and presswork. Perhaps the most important phase of newspaper making is run-of-paper color printing which has been given a prominent place by Manager W. E. Wines on the A.N.P.A. Mechanical Conference program which is to be held at the Palmer House, Chicago, on May 25, 26 and 27. All meeting rooms are air-cooled. The morning and afternoon sessions will be held in the Red Lacquer Room.

Newspaper run-of-paper color printing will be discussed at the Monday morning (May 25) session. Fred Shafer, manager copy and art of the Chicago *Tribune*, will speak on "Art Copy For Run-of-Paper Color." After the discussion following Mr. Shafer's paper, Alexander Kramer, Pressroom Superintendent of the Syracuse *Post-Standard*, will present a paper on "Run-of-Paper Color Printing." No doubt much of interest will be brought up relative to printing color with existing equipment. Considering the limitations arbitrarily imposed in attempts at run-of-paper color printing with both new and existing equipment, much valuable technical information should come out of this session.

A lively subject will be considered at the Monday afternoon (May 25) session when photoengraving for newspapers will be the main topic. Installation of photoengraving equipment by newspapers in increasing number as well as the desire to improve newspaper pictorial reproduction makes this a topic of great appeal.

The entire session on Tuesday morning (May 26) will be devoted to stereotyping. Henry Wrasse, stereotype superintendent of the Milwaukee *Journal*, will talk about "Direct Pressure Molding." Other topics to be discussed will be "Plate Improvement, Molding, Blankets and Mat Stretch. Lester Yeager, pressroom superintendent of the Marion (O.) *Star*, will

Fred Shafer, Manager of Copy and Art at the Chicago Tribune, *will discuss "Art Copy For Run-of-Paper" Color Printing at the A. N. P. A. Mechanical Conference in Chicago.*

George H. Fuller, Superintendent of Stereotyping at the Cleveland Press *is chairman of the stereotypers' group meeting at the A. N. P. A. Mechanical Conference in Chicago.*

discuss "Is Arsenic Detrimental to Stereotype Metal?"

Chas. H. Ruth, superintendent of the Washington Evening *Star*, speaks on "Coordination of Composing Room Activities." All the technique of the newly-centralized system of display advertising reproduction by means of photostats should be revealed in C. W. Govier's paper, "Photoprint System for Local Display Ads," as developed by the speaker and used in the plant of the Boston *Herald-Traveler* of which he is mechanical superintendent.

The Wednesday morning (May 27) meeting will be devoted to pressroom topics. Col. McCormick, publisher, Chicago *Tribune*, will speak on "Newsprint." J. W. Addison, pressroom superintendent of the Hartford *Times*, will present "Report of Committee on Definitions." Lead-In Tapes, Press Rollers, Newsprint and Newsprint Waste Records will be other topics.

Departmental Meetings

The policy of providing special departmental meetings, which was introduced at the Detroit Conference, will be continued this year. Meeting rooms will be announced at the Conference.

On Monday evening at 8 o'clock the Composing Room Meeting will be held. Leon A. Link, composing room superintendent of the Des Moines *Register-Tribune*, will preside. The Stereotypers' Meeting will be presided over by George H. Fuller, stereotype superintendent of the Cleveland *Press*, in a separate meeting room.

On Tuesday evening (May 26) J. W. Addison, pressroom superintendent of the Hartford *Times*, will be chairman of the Pressmen's Meeting. At the Photoengravers' Meeting, to be held also on Tuesday evening in a separate room, Superintendent of Engraving D. D. Curridem of the Minneapolis *Star*, will preside.

The Program

The program in full (which Manager Wines states may be subject to a few last-minute changes) is as follows:

PROGRAM

MONDAY—9:45 A. M.

Color Session

Address of Welcome
S. E. Thomason, Publisher, Chicago Daily *Times*.

The Mechanical Department
Its Practical Service to You.
The Mechanical Bulletins.

Art Copy for Run-of-Paper Color
Fred Shafer, Manager, Copy and Art, Chicago *Tribune*.

Discussion

Run-of-Paper Color Printing
Alex Kramer, Supt. Pressroom, Syracuse *Post-Standard*.

Discussion

Press Equipment for Color Work
Color Comics

MONDAY—2:00 P. M.

Cameras and Photo Copy
Donald P. Miller, Associate Editor, Allentown (Pa.) *Call*.

Discussion

Modern Photoengraving Problems
Arthur H. Gaebel, Engraver, J. David Stern Newspapers.

Discussion

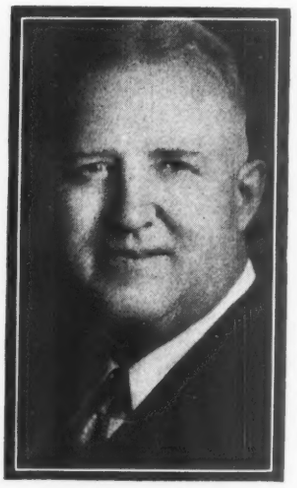
Electric Etching
H. H. Parker, Gen. Press Foreman, Richmond (Ind.) *Palladium-Item*.

Discussion

Films And Cameras
Masking

MONDAY—8:00 P. M.

Composing Room Meeting
Chairman, Leon A. Link, Supt. Comp. Room, Des Moines *Register & Tribune*.



J. W. Addison, Pressroom Superintendent of the Hartford Times, *will preside as chairman at the pressmen's group meeting in Chicago at the A. N. P. A. Mechanical Conference. He will also present "Report of Committee on Definitions."*

STEREOTYPERS' MEETING
Chairman, George H. Fuller, Stereotype Supt., Cleveland *Press*.

TUESDAY—9:30 A. M.

Stereotype Session

DIRECT PRESSURE MOLDING
Henry Wrasse, Stereotype Supt., Milwaukee *Journal*.

DISCUSSION

PLATE IMPROVEMENT
MOLDING—Blankets, Mat Stretch

IS ARSENIC DETRIMENTAL TO STEREOTYPE METAL?
Lester Yeager, Pressroom Supt. Marion (O.) *Star*.

TUESDAY—2:00 P. M.

Composing Room Session

COORDINATION OF COMPOSING ROOM ACTIVITIES
Chas. H. Ruth, Supt., Washington Evening *Star*.

DISCUSSION

Leon A. Link is Chairman of the composing room group meeting at the Chicago A. N. P. A. Mechanical Conference. He hails from the Des Moines Register *and* Tribune *composing room of which he is superintendent.*

PHOTOPRINT SYSTEM FOR LOCAL DISPLAY ADS
C. W. Govier, Mech. Supt., Boston *Herald-Traveler*.

DISCUSSION

MAKE-UP TABLES, TYPE-O-WRITER, SEMAGRAPH

TUESDAY—8:00 P. M.

PRESSMEN'S MEETING
Chairman, J. W. Addison, Pressroom Supt., Hartford *Times*.

PHOTOENGRAVERS' MEETING
Chairman, D. D. Curriden, Supt. of Engraving, Minneapolis *Star*.

WEDNESDAY—9:00 A. M.

Pressroom Session

NEWSPRINT
Col. McCormick, Publisher, Chicago *Tribune*.

REPORT OF COMMITTEE ON DEFINITIONS
J. W. Addison, Pressroom Supt., Hartford *Times*.

DISCUSSION

LEAD-IN TAPES, PRESS ROLLERS, NEWSPRINT, NEWSPRINT WASTE RECORDS

Alexander Kramer, Pressroom Superintendent, is scheduled to appear on the A. N. P. A. Mechanical Conference program at Chicago. He is to talk on "Run-of-Paper Color Printing."

McCarty Re-elected Hoe President

At the annual meeting of the Board of Directors of R. Hoe & Co., Inc., held April 20, Fred L. McCarty was re-elected President and General Manager of the Company; Harry M. Tillinghast was advanced from Vice-President in charge of sales to Vice-President and Assistant General Manager, in which capacity he will assist Mr. McCarty in the general management of all the divisions of the business but will still maintain an interest in the Sales Division of which he has been the head for many years. John M. Masterson was promoted from Secretary to Vice-President and General Sales Manager. Allen W. Lishawa became Secretary as well as Treasurer. The other officers, Messrs. Louis Roehm, Assistant Secretary, and Charles E. Littleton, Assistant Treasurer, were also re-elected.

Morey Quite Active

The many friends of Walter W. Morey, inventor and developer of the Teletypesetter, will be glad to hear that he is quite active in his duties with the Teletypesetter Corporation, in spite of a published report to the contrary.

C. W. Govier, Mechanical Superintendent, Boston Herald-Traveler, *will speak on Photoprint System of Ad Composition.*

Hon. A. E. Giegengack, United States Public Printer, will address the Iowa Daily Newspaper Composing Room Executives and invited guests on Monday afternoon, June 8, in Waterloo, Iowa.

Iowa

Composing Executives and Stereotypers to Hear Giegengack

By Staff Writer

As WAS announced in the April issue of *Printing* Equipment *Engineer*, the tenth annual meeting of the Iowa Daily Newspaper Composing Room Executives will be held at the Hotel Russell-Lampson in Waterloo, Iowa, on Monday and Tuesday, June 8 and 9.

At this tenth annual meeting, which is being held at the birthplace of the association, composing room executives from adjoining states have been invited.

Special effort has been placed on this year's program of the association when stereotype men and business managers of the Iowa Daily Press Association will be guests.

Results of experimental research in the United States government printing office in Washington will be described by the Hon. A. E. Giegengack, chief of that office, in an address to the convention.

The business managers of the Iowa Daily Press Association are being invited to the Monday afternoon meeting, June 8, at which Mr. Giegengack will speak.

Leo J. Carle, Superintendent of the Composing Room of the Mason City (Ia.) Globe-Gazette, *is President of the Iowa Daily Newspaper Composing Room Executives.*

Also appearing on the program will be Charles A. Summer, Secretary-Treasurer of the International Stereotypers and Electrotypers Union who has headquarters in Kansas City, Mo.

Whether or not it will be feasible for stereotypers and pressmen to become permanent members of the association will be considered, according to Leo J. Carle of the Mason City *Globe-Gazette*, president of the state group.

R. T. Caldwell of the Cedar Rapids *Gazette* and R. E. Boler of the Waterloo *Courier* are in charge of entertaining the stereotypers.

Allowed Patent

A patent has been allowed George H. Fuller, Stereotype Superintendent of the Cleveland *Press*, with respect to a preferred embodiment and certain alternative constructions of reinforcing ribs, in addition to the circumferential ribs now cast in a semi-cylindrical stereotype plate. The additional ribs are parallel to each other and extend from one side of the ribbed or inside surface of the plate to an adjacent side of the plate. The patent has been assigned to the Goss Printing Press Company.

The specifications state that in addition to reinforcing the plate against circumferential creeping on the press

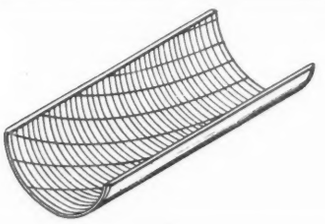


Diagram illustrating one form of inclined series of ribs (in addition to the circumferential ribs) as proposed in a patent issued to George H. Fuller for reinforcing a stereotype printing plate.

cylinder, the additional ribs are intended to provide a means for obtaining a more solid casting as well as a better printing surface at the upper part of the plate. It is claimed also that the newly-added grooves in the mold cylinder will assist in venting the cast to release gases which bubble out of the molten metal at the time of pouring a plate.

G. P. O. Buys Intertypes

The world's largest printing plant, the U. S. Government Printing Office, last month placed an order for four Intertypes and a large assortment of Intertype matrices. Three of the new machines are Model C three-magazine Intertypes, while the fourth is a Model F Mixer machine. All four machines are equipped with the Intertype Automatic Quadding and Centering Device, with Low-Slug Quadding. This order follows an installation of six Model F Mixer Intertypes made by the Government Printing Office nearly a year ago.

"Thiokol" Appoints

Thiokol Corporation, Yardville, New Jersey, recently appointed Leo F. Mullen, 2563 Fenwick Road, Cleveland Heights, Ohio, to handle the middle-western sale of the new "Thiokol" synthetic rubber printing plate and plastic molding powders. Mr. Mullen was formerly with Synthane Corporation and The Sherwin-Williams Company.

Forty-two newspaper mechanical executives and invited guests attended the Texas-Oklahoma Mechanical Conference in Tulsa on May 4 and 5.

Deputy

Elected Chairman of T.-O. Mechanical Conference—Harper, Secretary.

By Staff Writer

THE Texas-Oklahoma Mechanical Conference held its fourth semi-annual meeting in Tulsa on May 4 and 5. Forty-two mechanical executives representing twenty-two publishers in the Southwest were registered as delegates for the meeting. Three sessions were devoted to the kindred problems of the publications represented and one session to each of the major mechanical operations.

Richard Lloyd Jones, Jr., assistant to the publisher of The Tulsa *Tribune* and business manager of that institution, delivered the address of welcome in behalf of the newspapers. The keynote of this talk was for the mechanical men to remember that the publishers were deeply interested in whatever success the organization might attain, and further that this organization was the Tulsa publishers' "baby" and the publishers expected it to be treated that way.

"Composing Room Management" was the subject of a discussion led by A. D. McDiarmind Monday afternoon, May 4. "Type Metal and Dross" was Clarence Seaman's subject on Tuesday morning, and "Newspaper Printing Ink" was discussed by Dr. Diefenbach Tuesday afternoon. Each of these sessions were augmented by open discussion on the problems of the members.

Tuesday night the Conference was entertained at a banquet by the publishers of Tulsa given at the Alvin Hotel. F. O. Larson, Business Manager of the Tulsa *World*, gave the principal address.

Dallas, Texas, was selected as the next meeting place. Leven T. Deputy, Dallas, was elected Chairman, and O. M. Harper, Tulsa, was chosen Secretary-Treasurer for the ensuing year.

Goss Acquires London Plant

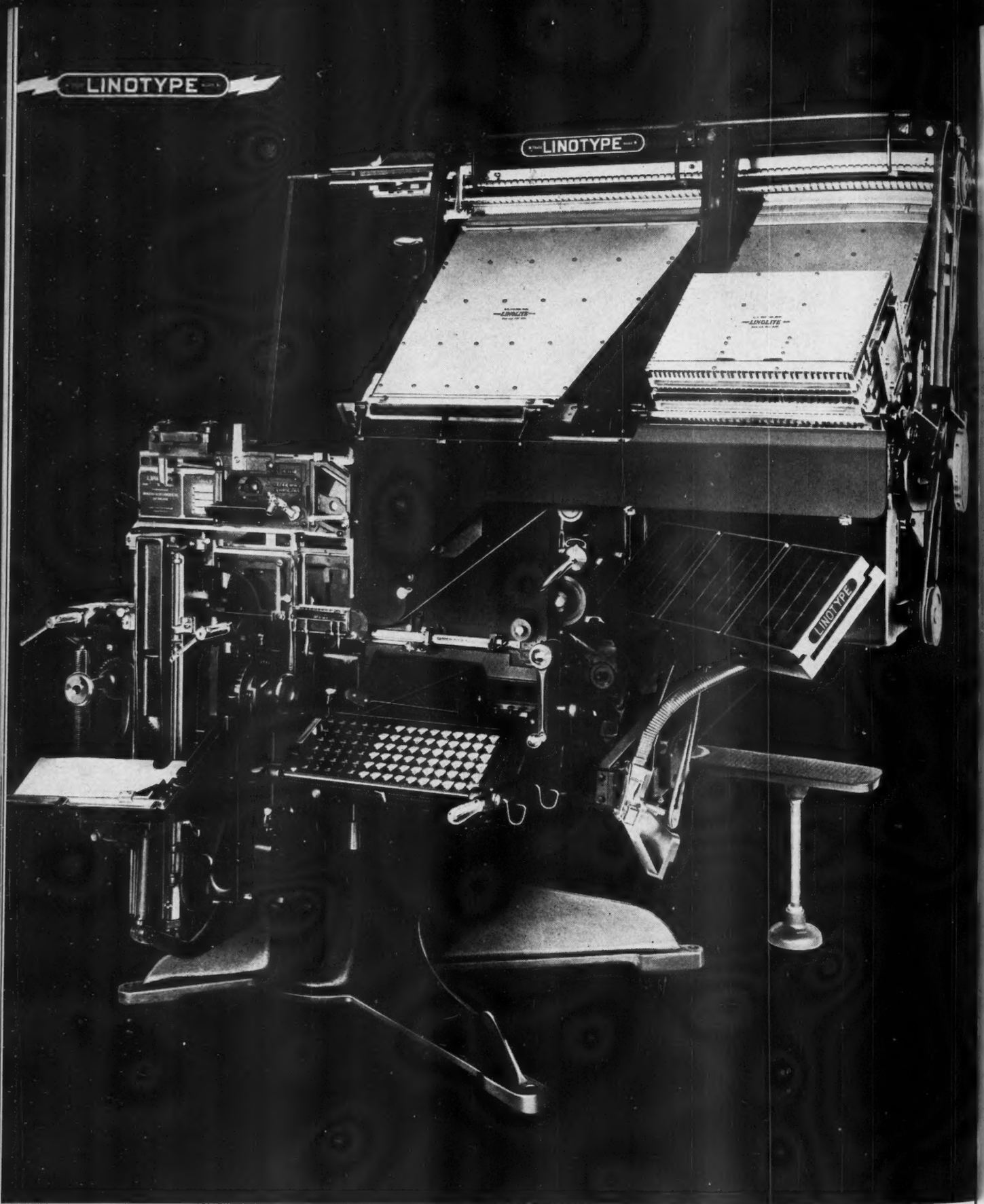
The Goss Printing Press Co., Chicago, has purchased the printing machine works and business of Joseph Foster & Sons, Ltd., Preston, England, and will continue operations under the new firm name of Goss Foster, Ltd.

This move was made in order to have complete manufacturing facilities in England, according to officials of the Goss Company at Chicago. Business placed by The Goss Printing Press Company of England, Ltd., has been averaging approximately one million dollars annually; and all this equipment has been produced in the Chicago plant, with a consequent differential in selling prices, due to duty. These manufacturing responsibilities will now be transferred to the plant at Preston, England.

The former sales offices and service plant of The Goss Printing Press Company of England, Ltd., located in the heart of Fleet Street, will continue to operate as the Goss Foster Company.

Goss Foster, Ltd., receives the right to build any or all the machines developed, patented, and built by the Goss company in this country. The new firm will also exchange designs and methods of manufacture with the Goss main offices and factory at Chicago.

Chas. H. Ruth, who needs no introduction to the A. N. P. A. Mechanical Conference, will discuss "Coordination of Composing Room Activities" at the A. N. P. A. Mechanical Conference in Chicago.



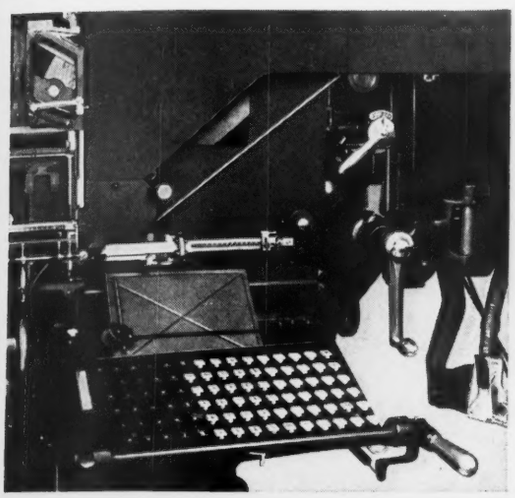
BLUE STREAK LINOTYPE—MODEL 14

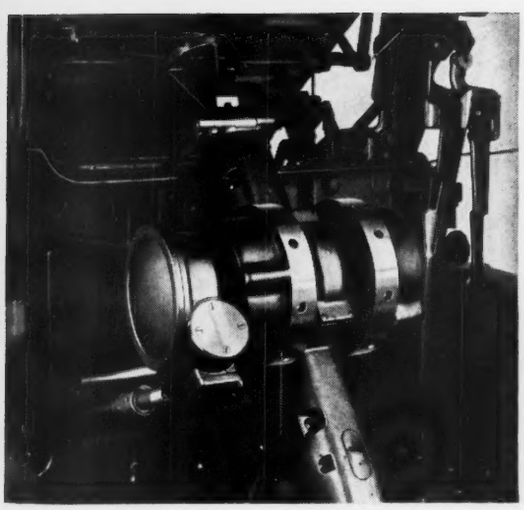
MERGENTHALER LINOTYPE COMPANY

AN FRANCISCO · CHICAGO · NEW ORLEANS · CANADIAN LINOTYPE, LIMITED, TORONTO, CANADA

LINOTYPE ANNOUNCES

THE BLUE STREAK LINOTYPES





● You will find in this new line of standard models many refinements and improvements which contribute to efficiency of operation . . . ease of maintenance . . . improved appearance.

THE OPTIC AID FRONT. The first thing you will notice is that the reeds, pulleys and other moving parts on the front of the machine are shielded. It looks neater. The mechanism is protected from dust and dirt. But the real significance lies in its effect on the operator.

Industrial engineers have frequently noted the increase in a worker's efficiency which results from the elimination of annoying distractions. Shielding these moving parts . . . together with the no-glare finish . . . reduces eye and nerve fatigue; helps the operator increase production.

THE BLUE STREAK SHIFT. One easy turn of the handle shifts either main or auxiliary magazines. The weight is counterbalanced by powerful clock springs and the entire mechanism moves on ball and roller bearings so that shifting is almost effortless.

Many other refinements will be noted, For example, the delivery galley, sorts stacker and many other parts are finished in polished nickel. But there are no nickeled parts which can throw distracting reflections into the operator's eye. Every change has been designed not only for better appearance but also to increase the operator's efficiency.

SEE THE BLUE STREAK EXHIBITION AT LINOTYPE HEADQUARTERS, 531 PLYMOUTH COURT, CHICAGO, DURING THE A.N.P.A. MECHANICAL CONFERENCE . . . MAY 25, 26, 27

BROOKLYN, NEW YORK

REPRESENTATIVES IN THE PRINCIPAL CITIES OF THE WORLD

FIFTY YEARS OF ACHIEVEMENT 1886 1936 LINOTYPE

SET IN LINOTYPE MEMPHIS FAMILY

New Blue Streak Linotypes

Embody New Engineering Developments and Changes in Standard Models

AT the time of the Annual Conference of Mechanical Executives of the American Newspaper Publishers Association at Chicago, May 25, 26, 27, a new line of Linotype machines will be introduced through an exhibition at the Chicago agency of Mergenthaler Linotype Company, 531 Plymouth Court.

All mechanical executives attending the Chicago Mechanical Conference are cordially invited to visit our display of these new models at our agency.

The new machines are designated Blue Streak Linotypes to differentiate them from previous models by virtue of the speed with which magazines may be shifted from one position to another. While introducing many developments in operating mechanism and finish the engineers have preserved the equipment features standard today throughout the world, so that the Blue Streak Machines fit interchangeably into existing plant equipments.

Impressive appearance and new mechanical features make the Blue Streak Linotypes as distinctive as a stream-line locomotive. Intensive studies of operating fatigue have led to the shielding of moving parts and details of mechanism within the operator's field of vision. Surfaces have been specially finished to guard against glare. The result produces an "optic-aid" construction and finish which printing plant engineers have immediately praised as a pronounced aid toward further efficiency in production.

These and other refinements of finish will be conducive to easier maintenance of the machines. The ensemble effect has made the Blue Streak Linotypes decidedly novel in appearance and appealing in their obvious facilities for type composition.

Featuring the single distributor machines, Blue Streak Models 8 and 14, is the new Blue Streak magazine shift. A single effortless turn of the shifting handle shifts a magazine. On Model 14 the same mechanism, with unit control, shifts the auxiliaries while the operator remains seated.

The Blue Streak Shift is so important a development in the typesetting machinery world that a separate section of this article has been devoted to a full explanation and illustration of its principles. (See following pages.)

Advertisement

Features of Construction

of the Blue Streak Linotypes

OPERATORS, machinists and executives the world over will be interested in the following summary of features of design and manufacture which characterize the new Blue Streak Linotypes:

Optic-aid Finish
which reduces fatigue, improves efficiency, and facilitates machine maintenance.

Blue Streak Shift
with one easy turn per magazine shift, unit control, and counter-balanced magazines.

Swinging Keyboard
which swings out as a single unit, giving the same accessibility as though the keyboard were entirely removed from the machine.

Unit Control
of main and auxiliary magazines with a convenient shift indicator lever and all magazines shifted by the same one-turn handle through a ball- and roller-bearing mechanism.

ChannelEntranceRevolvingMechanism
on two-in-one Model 14, actuated from the operator's chair.

Universal Knife Block
with three bearings to give rigid support to the right-hand knife and assure parallel movement. Each point size (5 to 45) can be independently adjusted. Operated by knurled knob.

Revolving Front Mechanism
on the two-in-one Model 14, turned with the touch of the hand.

Power Shift
on the mixers, with two controlling keybuttons conveniently located at the right of the keyboard one each for the main and auxiliary magazines. An automatic matrix guard protects the matrices from being caught and damaged during shifting.

Universal Ejector
with blades rigidly supported between heavy guides and set for any measure by a single movement of a handle.

Lock for Auxiliary Magazines
preventing accidental dislodging of adjacent magazines when changing magazines.

Control of Auxiliaries
from operator's seat without break of operating tempo.

Automatic Matrix Guard on Auxiliary Side
to facilitate shifting magazines.

Direct-line Assembler Slide Return
actuating the return with direct horizontal spring tension.

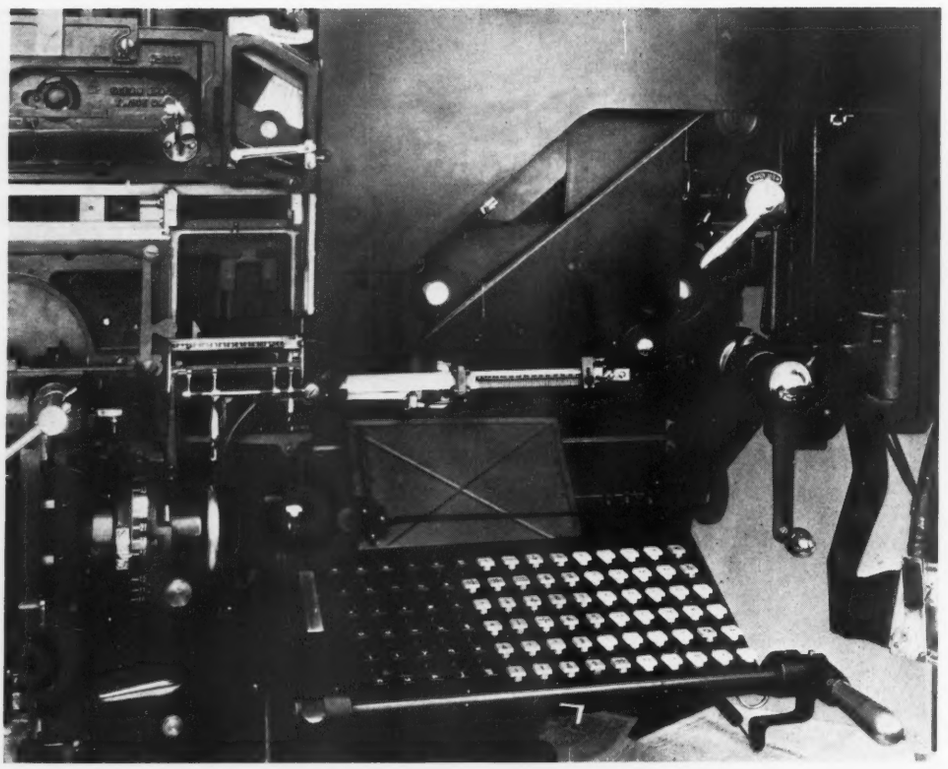
Front Removal of All Magazines
full-length, three-quarter, split, or auxiliary. Unnecessary to spread auxiliaries in rear of machine for removal.

Six-mold Disk
(optional equipment), for heads and other varied requirements, — typical equipment: three single-column and three double-column molds. Automatic ejector set further facilitates use of this new feature.

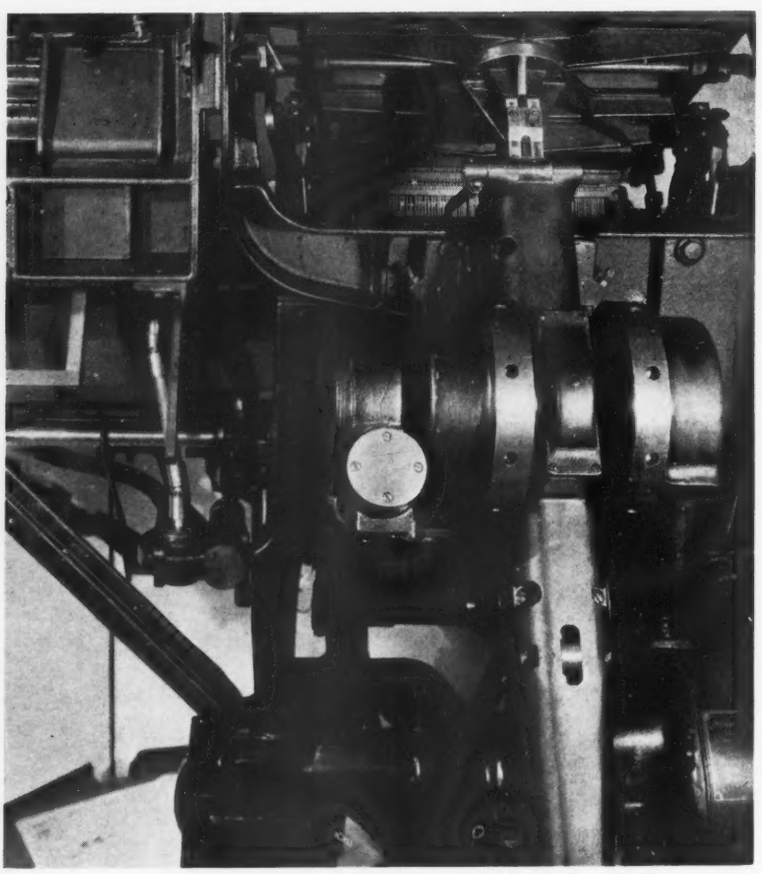
Automatic Font Distinguisher
on single distributor models, adjusts itself to the required point size when magazines are shifted, preventing wrong fonts from entering magazine.

Improved Space Band
16% stronger, made in five thicknesses of special steel with wider ribs, less likely to buckle or break.

Advertisement



Front of Blue Streak Linotype, Model 14, showing part of "optic-aid" shielding, indicator and clutch handle unit control of the Blue Streak shift.



Back of Blue Streak Linotype showing elevating mechanism of the Blue Streak shift.

Advertisement

Removable Double "e" Device
with improved indicating knob, for use of an extra channel of "e" matrices.

Vertical Mouthpiece Wiper
thoroughly cleans face of mouthpiece and vents after each cast.

New Pot Pump Plunger Sleeve
assures more effective pump action.

Positive Slug Lever
operating from cam on first elevator slide.

Universal Self-quadder
applicable to all new machines, provides low-slug quadding, centering, or automatic indention. Low-slug feature is optional, supplied as a separate device, and requires only the simple change of a slide in the vise jaws of the self-quadder for changes in body size.

Spaceband Pawl Clearing Device
causing pawl to clear top of spacebands when moving to left.

Em, En, Thin Space Release
automatically releases any one or all of these fixed spaces in combination with or independent of the spaceband when the spaceband lever is touched.

Auxiliary Line Safety
prevents sending through a line raised in the assembling elevator when the machine is set for casting display faces.

Down-stroke Knife Wiper
cleans on the downward stroke, effectively freeing knives of chips.

Blank Slug Device
holds the left-hand vise jaw over when casting blank slugs.

Water-cooled Mold Disk
provides constantly circulating water to maintain correct temperature for solid, close-grained slugs, and minimizes warping of molds or disk.

Quick-change Liners
changed by merely loosening three screws, without removing mold from disk.

Sectional Distributor Bars
provide for future maintenance by permitting ultimate replacement of short section instead of complete bar.

Improved Justification Bar and Brace
for positive and uniform action of spacebands in justification.

For Maintenance of Lubrication
oil cups added to oil holes, also guarding against foreign matter.

Sturdy Foundation
with extra-wide base and extra-heavy frame to provide rigid support, reduce strain and vibration, and maintain permanently accurate alignment of mechanisms.

Linolite Magazines
made in all sizes for all machines, saving operating fatigue with frequent changes, more durable than brass and easier to maintain.

Wide Auxiliary Magazines
interchangeable with those of single distributor, mixer, and super-display machines, accommodate any size from 5 point up to condensed 60 point.

Self-oiling Bearings
for matrix delivery belt.

Universal Adjustable Copy Holder
handles large and small sheets of copy as they come.

Endless Matrix Delivery Belt
for both main and auxiliary magazines, shielded from operator's vision, except portion needed in assembler manipulation.

For Storing Pi Matrices
convenient composition trays.

Straight-line Assembler Drive
with spiral-bevel gears.

Assembler Slide Anti-friction
roller bearing.

Complete Bank of Keyboard Key Rods
removable as a unit.

Two-speed Distributor Drive
with round driving belt.

Flexible Pi Tube

Assembler Slide Adjustable Clamp
for rapid, positive measure changes.

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New Shift

For Magazine Elevating Mechanism on Models 8-14 Linotypes

By R. B. MEAD*

ON MACHINES of the above description, owing to the combined weight of a number of main magazines and their framing, together with the distance necessary to space the magazines apart from each other, it has been the practice for elevating the magazines, to use the mechanical power embodied in the principle of a helix, or advancing screw thread coupled with a rotatable crank handle, or other manually controlled leverage system that may ease the burden of weight lifting, leaving the time element a matter of secondary consideration.

In the specific class of machines known as Model 8, the mechanism consists of a crank handle located at the front of the machine, which is connected to a system of bevel gearing, by means of a universal-jointed shaft, to revolve a threaded nut, which in turn advances a screw attached at right angles to the underside of the lower magazine frame of a multiple group, and elevates or lowers the magazines into operative position.

The ratios of the connecting parts are so calculated as to require a minimum effort at the expense of time, requiring eleven turns of the crank handle to move and properly locate each magazine into operating position.

MODEL 8

We have now devised an elevating mechanism for the *main* magazine group, so that the effort has been further lightened and the number of turns for the crank handle reduced to one.

Referring first to Figures 2a, 2b, 4 and 5, and partially to Figures 1 and 2, they consist of an improved crank handle (A1), journaled in a crank shaft housing (A2), with a universal jointed shaft (B), leading to a worm shaft (C1). One complete turn of the crank handle will turn the worm (C2) through one revolution, which will rotate the worm wheel (C18), through an arc of approximately one-third revolution.

A rectangular elevating slide (C3) is supported on rollers (C4) in a housing (C5). This slide is adjustably fastened to the distributor bracket as shown at (C6). The upper end of the slide is suitably flanged as at (C7), to support and convey the lower magazine frame from one position to another.

The central portion of the rear surface of the slide carries a rack (C8) in mesh with a toothed sector (C9), which is keyed to the worm wheel shaft (C10), which shaft is rotatably mounted in side bearings (C11—see Fig. 4). At each side of the housing and central to the worm shaft are located spring drum housings, left and right (C12). The annular flanges of the drum housings (C12) are on the outside provided with radially spaced holes (C13), utilized for winding the proper spring tension and one of which is engaged by the upward projecting drum arresting plungers (C14—see Figures 4 and 5a), for maintaining position. Each spring housing carries two clock-form springs (C15), each spring is 1/16 in. thick and 1¼ in. wide and 25 ft. 6 in. long, adjustably mounted for tension control, with one end locked to the worm wheel shaft (C10), as at (C16), and the other end fastened to the spring drum housings as at (C17).

The worm wheel shaft (C10) extends beyond each side of the inner bearings (C11), into and through the spring drum housings and beyond the right hand spring drum housing to the worm wheel (C18).

One revolution of crank handle (A1) turns the worm wheel (C18) one-third revolution also the toothed sector (C9) which is so proportioned as to move the rack (C8) and slide (C3) the correct distance to bring a magazine to its operative position. The four springs are thereby either wound or unwound, according to direction of travel and serve to counterbalance the magazine load.

Ball and roller bearings are strategically positioned throughout, with adjustable counterbalance control to minimize the magazine lifting effort. The properly proportioned worm and gear mechanism, together with the above, provides an elevating system whereby a force of one pound applied to and moved through one revolution of the crank handle will elevate a load of 60 lbs. covering a 2½ in. movement of the elevating slide, which distance corresponds to the distance between the magazines.

In connection with the foregoing accomplishment, it became necessary to contend with certain variable factors which were inherent to practical conditions, due to some magazines being made of light material, such as "Linolite," and others of heavier material such as brass, together with the different sizes and number of matrices which go to make up the various fonts.

The counterbalancing mechanism being properly adjusted to a load of heavy magazines with heavy matrices, does not have the same balancing effect on a load of light magazines with light matrices, and vice-versa.

To overome these variations and avoid separate counterbalance spring adjustment for the various conditions, we have devised a universal magazine frame locating linkage which automatically locates each magazine frame and magazine, when it reaches the operating position.

The mechanism to do this consists of a bell crank lever (D1) pinned to the magazine locating block support lever shaft (D2).

The lower end of a connecting link (D3) is connected to one arm of the bell crank lever (D1), and the upper end is adjustably attached to an arm (D4) keyed to a rock shaft (D5). A pawl (D6), located on the rock shaft (D5), extends downward and engages one of three ratchet teeth in the steel block (D7), which is fastened to the elevating member (C3).

It can be seen that when the pawl (D6) is in engagement with a ratchet tooth of the steel block (D7), it will be impossible for any over-balancing tension of the clock-form spring (C15) to lift the magazine frames and magazines; and as the distance between the ratchet teeth of the steel block (D7) is exactly the same as the distance between the magazines, the magazines are automatically located in operating position.

If, on the other hand, the magazine frames are heavily loaded, sufficient to slightly overcome the tension of the clock-form springs (C15), the magazine frames will rest on the finished surfaces (D8) when in delivery position, which are supported in the usual manner by the magazine locating blocks, used on machines of the class known as Model 8.

When the frames rest on the finished surfaces (D8), they will be in the same practical mathematical relationship to operative position as they would be if any over-balance of the clock form springs (C15) should

*Director Department of Research and Development, Mergenthaler Linotype Co., Brooklyn, New York.

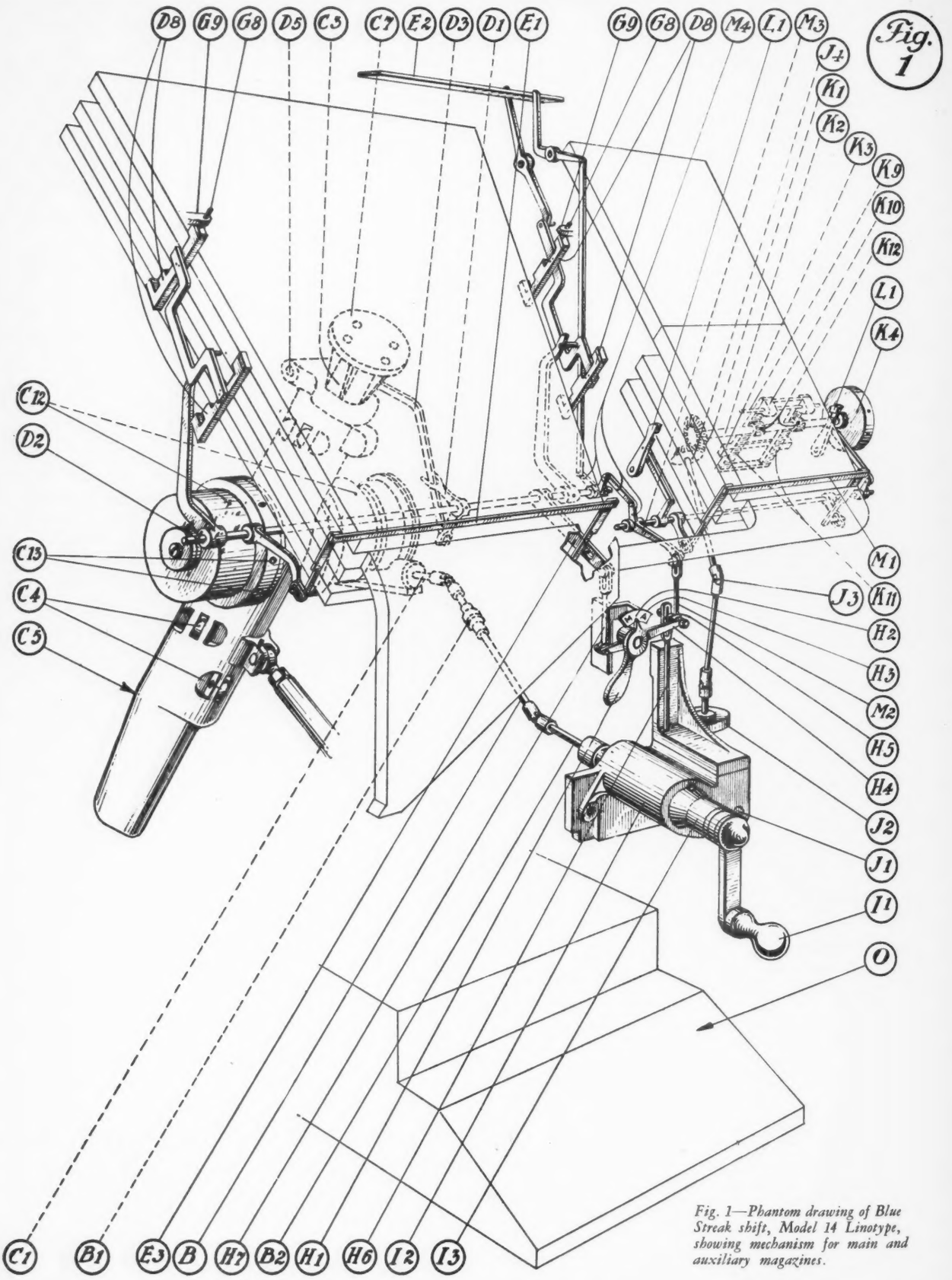

Fig. 1—Phantom drawing of Blue Streak shift, Model 14 Linotype, showing mechanism for main and auxiliary magazines.

force the ratchet tooth of the steel block (D7) upward against the pawl (D6). The lower magazine frame and magazine are accurately located and the upper magazine frames are correctly positioned by spacing studs (see Fig. 2a) consisting of a stud body (G1) fixed to the escapement bar of the lower magazine. A set screw (G2) located by a lock nut (G3) in the stud body (G1) banks against a screw (G4) fastened to the lower face

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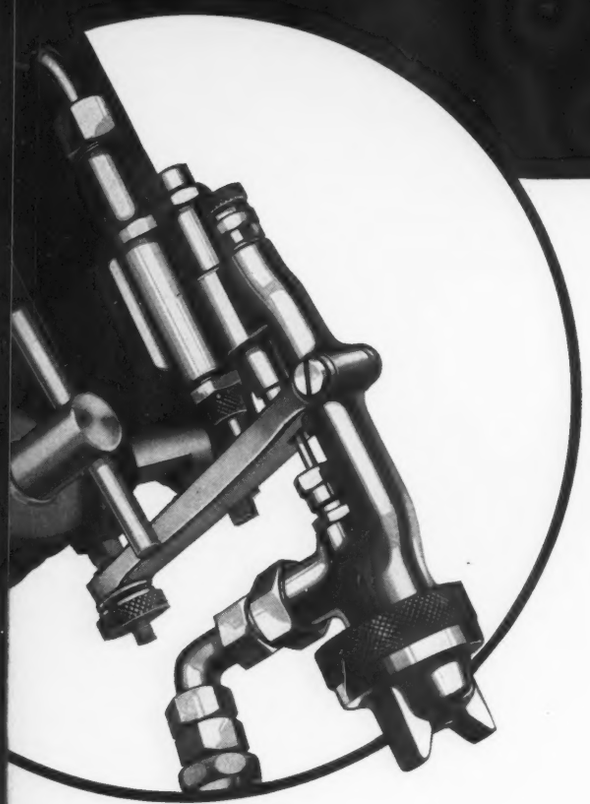

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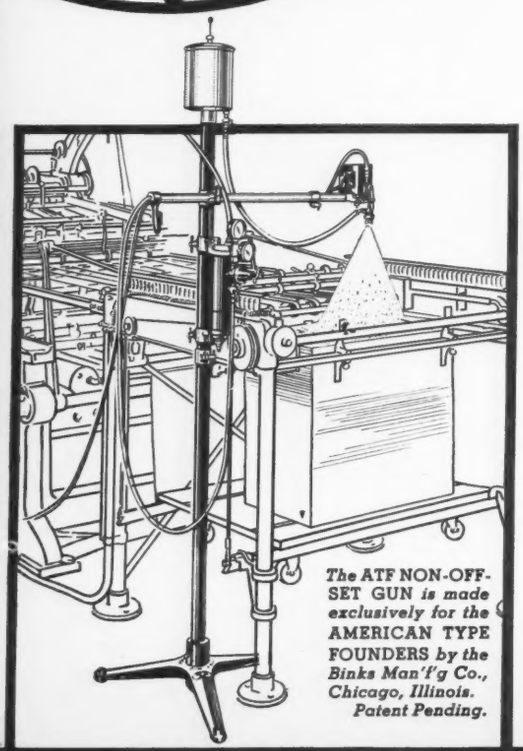

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of the magazine frame above. To maintain a parallel position of magazines, the locating recess (G5) of the side brackets (G7) have been closely fitted to the magazine frame studs (G6). Two set screws (G8) in lugs (G9) of the channel entrance bracket, maintain the position of the banking blocks (D8).

The automatic matrix guard finger lever (F) when depressed will check for interference by means of matrix guard (E1) and distributor screw guard (E2) and if no obstruction at either point prevents the withdrawal of the magazine banking blocks (D8), the change of magazines can take place. In case of an interference at these points and the accidental turning of the crank handle (A1), the slip collar (A3) would prevent damage.

The slip collar has two spring pressed plungers, which are identical with plunger (I4) shown in Fig. 4a, thus providing means to shift the crank handle (A1) to an upward position as to secure clearance when the keyboard (O) has to be swung out of position.

For accurate timing of the elevating and lowering device, a setting line (C19) has been placed on the elevating slide (C3). When the lower first tooth of the rack (C8) just engages the gear sector (C9), this marker (C19) should be flush with the upper surface (C20) of the housing (C5). In this position, the crank handle (A1) should be in a vertical downward position to be finally adjusted in relation to the line setting by adjustable union (B1), which in construction is similar to the adjusting clutch (K21) as illustrated in Fig. 5b.

Machines With Auxiliary Magazines

In machines of the class described, it is essential to the art that means be provided to carry auxiliary magazines and the class referred to in this instance is known as Model 14. Heretofore, on machines of this type carryingthree auxiliary magazines, the auxiliary magazine elevating system consisted of two rotatable cams actuated through a train of gears, manually controlled by a crank handle which (until the advent of Model 28) was located at the side of the auxiliary magazine framing, and necessitated the operator leaving his seat each time an auxiliary magazine was to be elevated or lowered to operative position.

Model 14

To conform to the easy and quick elevating mechanism explained in the foregoing description for the main magazines, we have devised an improved system for elevating the auxiliary magazines which is controlled from the operator's seat by the same crank handle (I1), which is used for controlling the main magazines.

Since the mechanism for the main side of the Model 14 is identical with the Model 8, we omit the explanation thereof and proceed only in the description of the mechanism of the auxiliary side.

An automatic matrix guard lever link operating handle (H1) is conveniently located above the crank handle (I1). An indicator plate (H3) serves to guide the selection of magazines which are to be moved, by the position of a pointer (H2), on the operating handle (H1). By moving the handle (H1) slightly downward, the pointer (H2) will register with the word MAIN on the indicator plate (H3) which indicates that the main magazines will be moved upward or downward by turning the crank handle (I1). If the handle (H1) is moved slightly upward, the pointer (H2) will register with the word AUX. on the indicator plate (H3), which indicates that the auxiliary magazines will be moved by turning the crank handle (I1).

The operating handle (H1) is connected on a shaft to a rocking arm (H4), the left hand end of which is linked to connections that operate the automatic matrix guard (E1), at the delivery point of the main magazines and the distributor screw guard (E2). The right hand end of the rocking arm (H4), is linked to connections which operate the automatic matrix guard (M1) at the delivery point of the auxiliary magazines, and the distributor screw guard (E2).

If the automatic matrix guards at the delivery points of the main or auxiliary magazines, or the distributor screw guards at the upper end, meet with any obstruction such as a matrix protruding from the magazine, or a matrix on the distributor bar, the operating handle (H1) cannot be moved, and no action will result from turning the crank handle (I1), other than possible slipping of the friction collar (I3). If the automatic guards meet with no obstruction, the operating handle (H1) is free to move in either direction.

When the operating handle (H1) is moved slightly upward, the right hand end of the rocking arm (H4) moves downward, pulling the link (M2) in the same direction. This action of the link (M2) pulls the lever

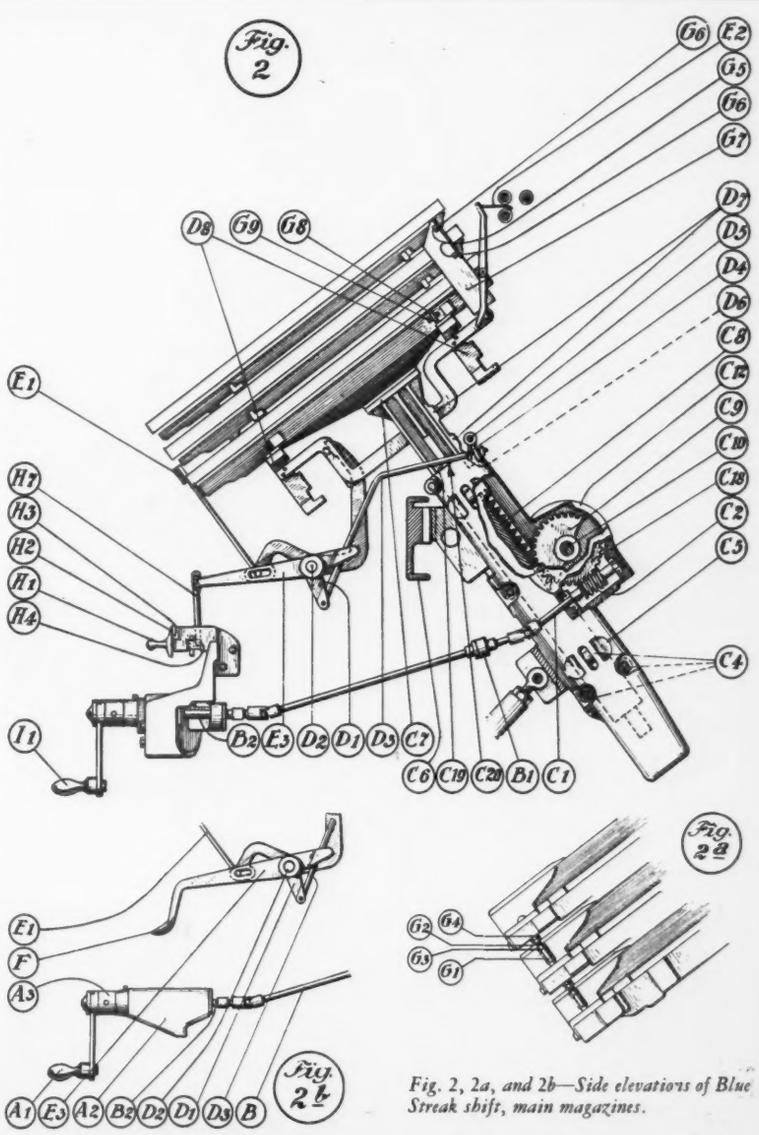


Fig. 2, 2a, and 2b—Side elevations of Blue Streak shift, main magazines.

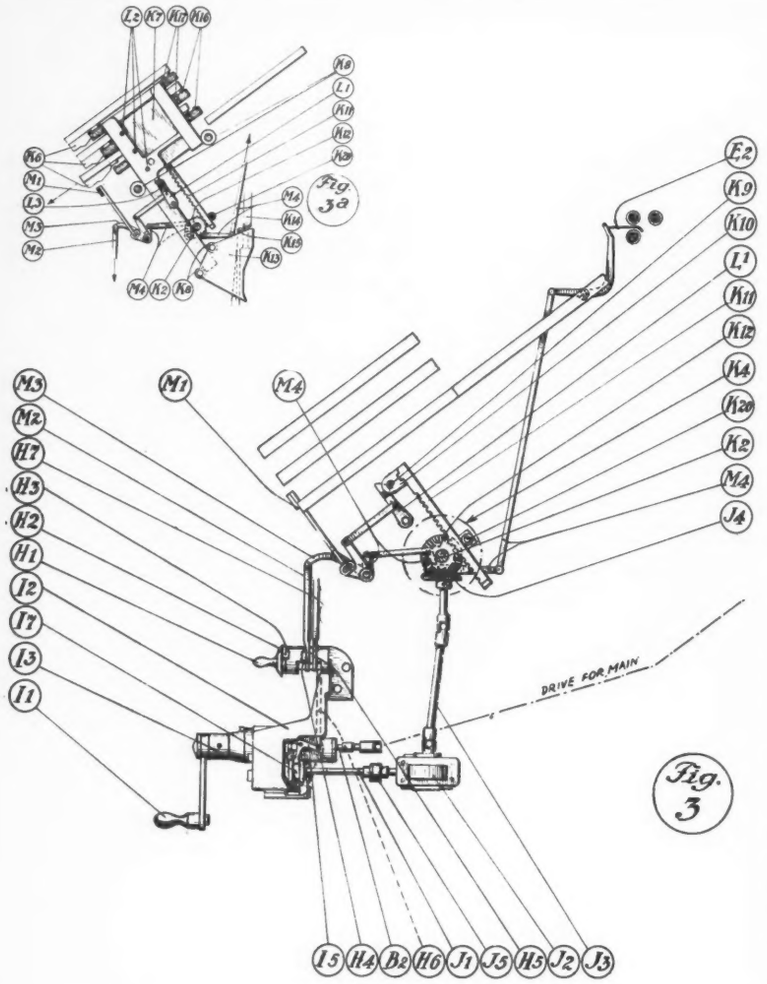


Fig. 3 and 3a—Side elevation of Blue Streak shift, auxiliary side of Model 14.

arm (M3) downward, which in turn actuates the connections (M4), to operate the distributor screw guard (E2), also the auxiliary magazine locating arms (L1) (right and left hand), and the automatic auxiliary matrix guard (M1).

During this downward movement of the right hand end of the rocking arm (H4) and shortly after the auxiliary magazine locating arms (L1) have been moved out of the path of the locating studs (L2), the shoulder stud (H5) contacts with the bottom of a slot in the link (H6), and pushes the link downward.

The lower end of the link (H6) is connected to one arm of a bell-crank (I5), the other arm of which engages an annular groove (I6) of a slidable member (I7) of the auxiliary clutch (I8). The downward movement of the link (H6), through the bell-crank (I5), moves the slidable clutch (I7), into engagement with the auxiliary clutch (I8), the latter being integral with a gear (I9).

The gear (I9) is connected through an idler gear (I10) to the elevating handle gear (I11), the movement of which is controlled by the crank handle (I1), through the friction collar (I3) and the shaft (I12), which is formed on the elevating handle gear (I11).

The slidable clutch (I7) is made with an additional annular groove (I13), which engages a roller (I14), attached to the right hand end of a horizontal shifter lever (I15).

The left hand end of the shifter lever (I15) also carries a roll (I16), which enters an annular groove (I17) of the sliding member (I18) of the main tooth clutch (I19), keyed to the main magazine elevating shaft (B2). The shifter lever (I15) is fulcrumed on a stud (I20), located midway between the main magazine elevating shaft (B2) and the auxiliary magazine elevating shaft (J1), consequently when the slidable member (I7) is in mesh with the auxiliary clutch (I8), the other slidable member (I18), will be free of the elevating handle gear (I11) and the motion of the crank handle (I1) will be transmitted through the idler gear (I10) to the auxiliary clutch (I8), to the auxiliary magazine elevating shaft (J1).

The slot in the link (H6 Fig. 1), allows the shoulder stud (H5), on the right hand end of the rocking arm (H4), to move upward and return the handle to its normal position, while the slidable member (I7) remains in engagement with the auxiliary clutch (I8).

The slidable member (I7) will remain engaged with the auxiliary clutch (I8) after the auxiliary magazines have been elevated or lowered, and will not become disengaged until the operating handle (H1) is moved downward.

When the operating handle (H1) is moved downward, preparatory to shifting the main magazines, the left hand end of the rocking arm (H4) moves downward, pulling the link (H7), and the end of the automatic matrix guard lever (E3), in the same direction, which in turn actuates the matrix guard (E1), the distributor screw guard (E2), the magazine locating blocks (D8) and the bell crank lever (D1), which through the link (D3), operates the rock shaft (D5) to release the pawl (D6) from engagement with a ratchet tooth in the steel block (D7), on the elevating member (C3).

It is unnecessary to continue holding the operating handle (H1) when the magazines are being raised or lowered, as the spring action on the magazine locating block support levers will cause the pawl (D6) and the magazine locating blocks (D8) to automatically drop into position for locating the magazines.

While the link (H7) is moving downward, the right hand end of the rocking arm (H4) moves upward and the stud (H5) contacts with the top of the slot in link (H6), and pulls the link upward, which in turn actuates the bell crank (I5) and disengages the member (I7) from the clutch (I8). At the same time, the shifting lever (I15) moves the member (I18) of the main tooth clutch (I19) into engagement with the elevating handle gear (I11).

When the member (I7) leaves the auxiliary clutch (I8), a slot (I21), in the member (I7), engages a pin

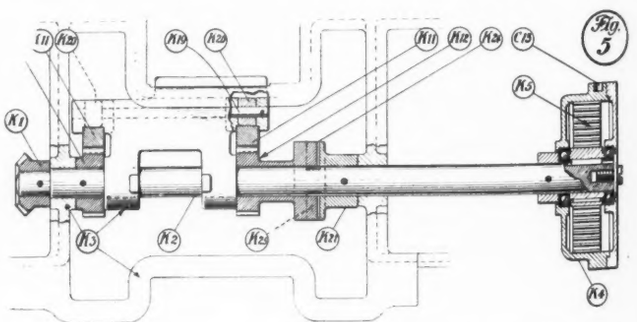


Fig. 5—Auxiliary elevating pinion shaft, with section of counter-balancing spring and housing.

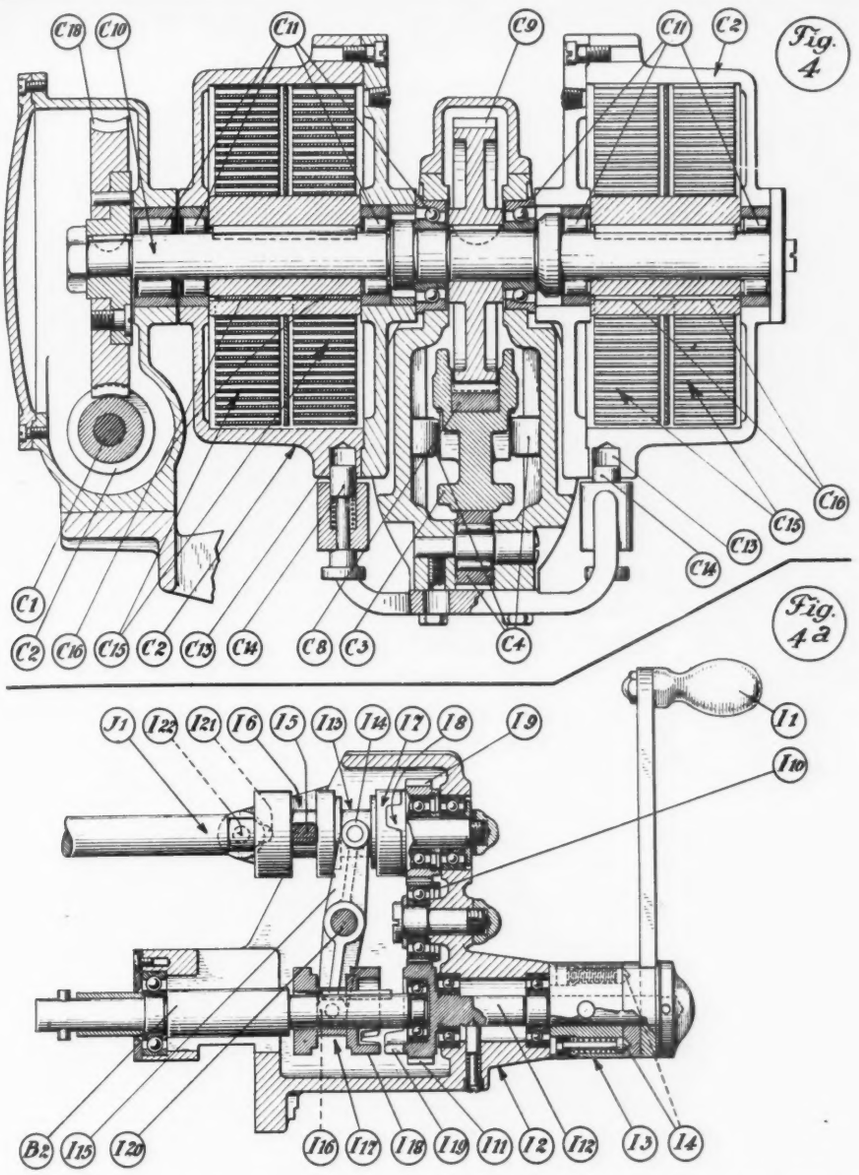


Fig. 4 and 4a—(Above) Section of counter-balancing springs, worm wheel, etc. (Below) Detail of shift handle, showing link to auxiliary mechanism, ball-bearings, etc.

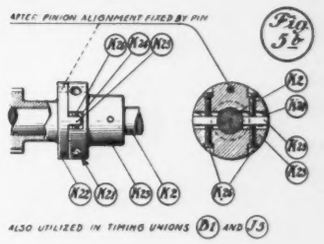

AFTER PINION ALIGNMENT FIXED BY PIN
Fig. 5b
K22 K24 K25
K12 K24 K25 K12 K24
K12 K24 K25
ALSO UTILIZED IN TIMING UNIONS B1 AND J3

Fig. 5b—Adjustment coupling, auxiliary shift, for synchronizing movement of main and auxiliary magazines with shift handle.

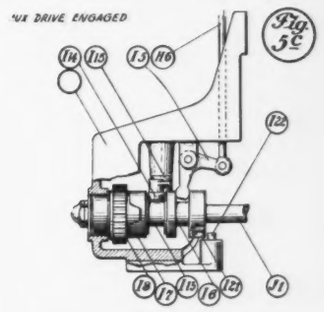


Fig. 5c—Auxiliary drive engaged.

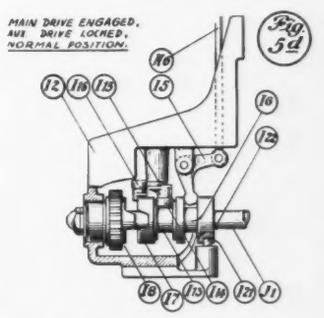


Fig. 5d—Main drive engaged, auxiliary drive locked—normal position.

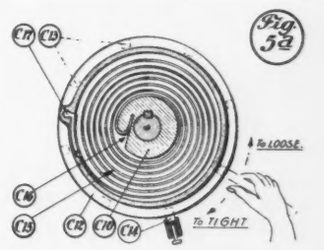


Fig. 5a—Adjustment of spring tension for proper counter-balancing.

(I22), which prevents the auxiliary magazine elevating shaft (J1) from being turned accidentally or otherwise, which might dislocate the operative setting of the auxiliary magazine.

The auxiliary magazine elevating shaft (J1) is connected through a helical pinion and gear drive (J2), keyed to an upright universal-joined shaft (J3), which carries a bevel gear (J4) at the upper end, in engagement with a bevel pinion (K1), on a horizontal elevating pinion shaft (K2), which is mounted on bearings in the auxiliary magazine frame supporting frame (K3 Fig. 5).

The right hand end of the elevating pinion shaft (K2), carries a spring casing (K4), containing a single clock form counterbalance spring (K5) $\frac{3}{64}$ in. thick, $1\frac{1}{2}$ in. wide and 22 ft. 9 in. long, held in adjustable tension, following the same principle as used for the main magazines. Three auxiliary magazine frames (K6) are mounted and held as a unit between side frames (K7), which ride between roller bearings (K8), attached to brackets on the supporting frame.

A spacing shaft (K9) is counterbored into and held rigidly between the side frames (K7), and carries a bracket (K10), to which are fastened two racks (K11), which extend downward and mesh with elevating pinions (K12), pinned to the elevating pinion shaft (K2).

When the bevel pinion (K1), located at the left hand end of the elevating pinion shaft (K2), is turned in either direction, the pinions (K12), meshing with the racks (K11), will elevate or lower the auxiliary magazine

This is H. H. Parker, General Press Foreman of the Richmond (Ind.) Palladium-Item. *Mr. Parker will present a paper on "Electric Etching" at the Chicago A. N. P. A. Mechanical Conference.*

frames, and the magazines thereon, according to the direction in which the crank handle (I1) may be turned. The gear ratios are proportioned so that one complete turn of the crank handle (I1) will elevate or lower an auxiliary magazine into the next operative position.

The two lower rollers (K8) on either side are suspended by two auxiliary brackets (K13), fastened to the magazine auxiliary support (K14) and its brace (K15).

An additional safety for the auxiliary magazines has been created by the appliance of the magazine auxiliary upper stop (K16) to all magazines. Means have been provided consisting of individual spring pressed latches (K17) to prevent lifting of the auxiliary magazines from their upper position when a lower one is removed.

For accurate timing of the auxiliary side, the procedure is as follows:

In initiating the timing of the auxiliary elevating and lowering device of the machine, the locking levers (L1) need first to be engaged with any of the three positioning rollers (L2).

After disconnecting the timing coupling (J5) (identical with B1 on mainside), the shaft (K19), pivoting the contact rollers (K20), is withdrawn and the rollers removed. This allows the racks (K11), pivotly connected at (K10) to the spacing shaft (K9) of the auxiliary magazine frame assembly, to be swung out of engagement with the pinions (K12), both of which are adjusted previously to perfect synchronism by means of the adjusting coupling (K21), illustrated in Fig. 5b. The same consists of a male member (K22), which is integral with the R.H. pinion (K12). The female partner (K23) has a wide receiving slot (K24) so as to provide clearance for the relative adjustment with projecting wings (K25) of the male member (K22) by virtue of the set screws (K26).

In proceeding with the timing, the idle pinion shaft (K2) is now turned until the two mates of the timing coupling (J5) line up, the handle (I1) understood to be in vertical downward position.

The final accurate adjustment is accomplished by means of set screws of the timing coupling (J5). Obviously the racks (K11) have to be again swung into engagement with the pinions and the contact rollers and their shaft reassembled.

Now, if the delivery point of the magazines does not line up properly with the stationary front entrance, the adjusting coupling (K21) can be utilized to correct this condition by retarding or advancing the right hand pinion (K12).

To position the auxiliary magazine assembly properly for the removal of the lower magazine, a stud (L3) is secured in alignment with the three positioning rollers (L2) (See Fig. 3a illustrating the removal of the lower magazine).

Newspaper

Color of Future Will Harmonize Better Than Colors in Joseph's Coat

By Walter Ogden*

COLOR in the daily newspaper has been dissected so much and approached from so many angles, that it becomes a difficult subject to discuss without passing over already well-cultivated territory. However, it still is the writer's opinion that the goal toward which we are pointed is not high enough. It is not worthy of our potential possibilities to smear (and smear is the correct word) a bit of color here and there in our paper to draw the eye to an advertisement or to decorate a debutante's ruby lips. And then sometimes we not only color the advertisement we aim to color, but we extend the favor impartially to all adjoining pages, margins, etc., and in the case of the rouged cheeks and lips and the blue eyes of the lovely lady, we get the color registration so mixed up that the fair creature has blue lips and red eyes and we then dismiss this atrocity lightly by saying, "Well, it only happens in about seven percent of our production," which, when you are destroying a lady's beauty and an advertiser's confidence, is quite too high a percentage.

Color efforts in the daily newspaper today are, in my opinion, comparable to the high-speed sign paintings we see along the highways and the lovely works of art hanging in the galleries. One is what we are now doing —the other is our aim and ultimate attainment. This generation will see the transformation of the daily newspaper from its drab coat to one like Joseph's coat of many colors and these colors will "fit" better than Joseph's reputed coat. The quality will be of the galleries and not the highways, but it will not be done with the letterpress process. We are simply kidding ourselves in trying to do otherwise.

Development of anything worth while is a slow process —deterioration is a rapid procedure. Let's try and develop to the art gallery standard in our daily newspaper color art without the deterioration which accrues by being satisfied with the present roadside-sign standard of the same thing.

*Pressroom Superintendent, the Cleveland *Press*.

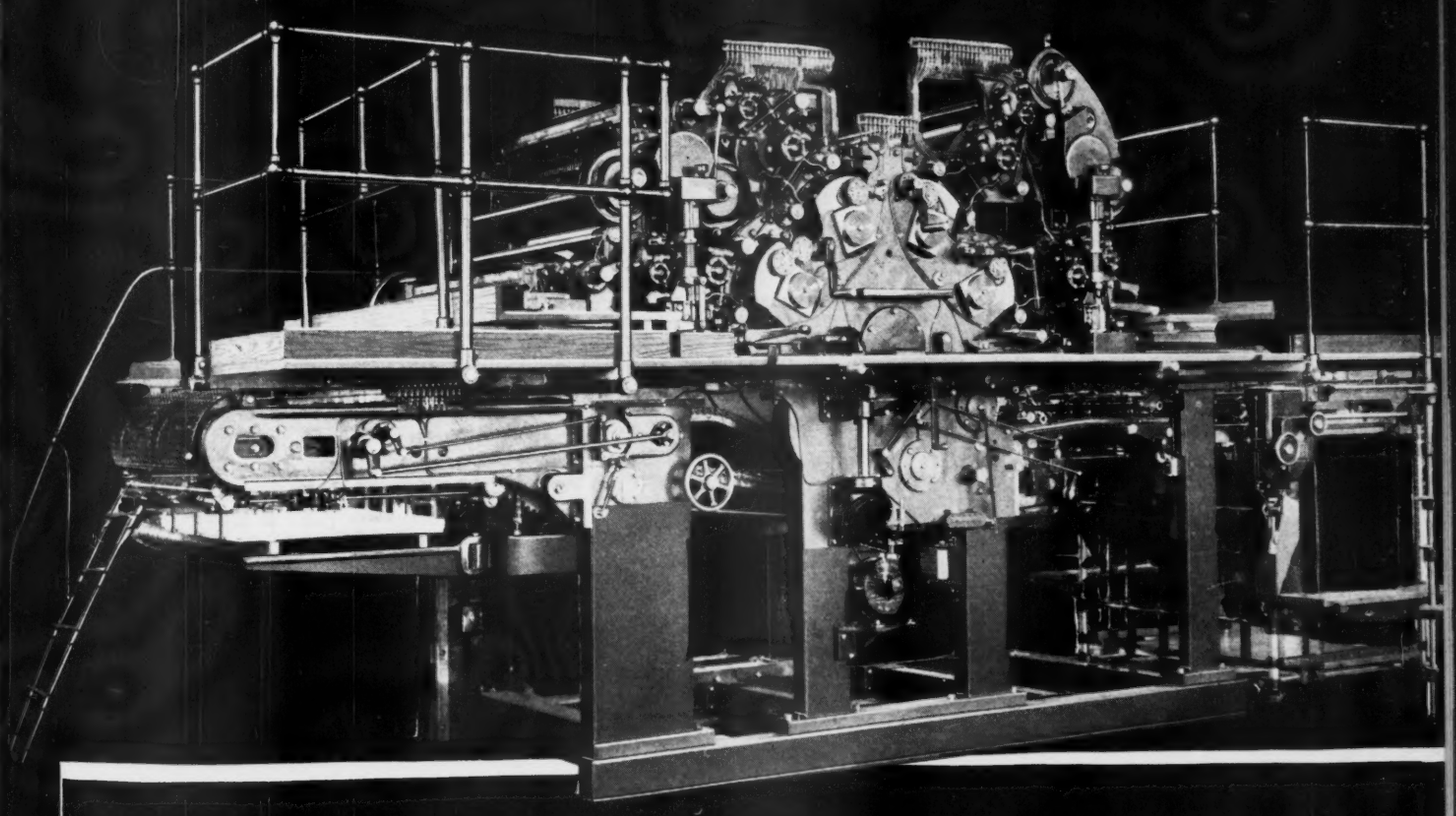
ATF Executive Changes

Edward G. Williams, for the past three years comptroller of American Type Founders, has been elected to the Board of Directors and to the position of Vice-President of American Type Founders Company. James A. Coleman was elected Treasurer of the company, in addition to his present duties as Secretary. Both appointments were made at the meeting of the company's Board of Directors, on Friday, April 24th.

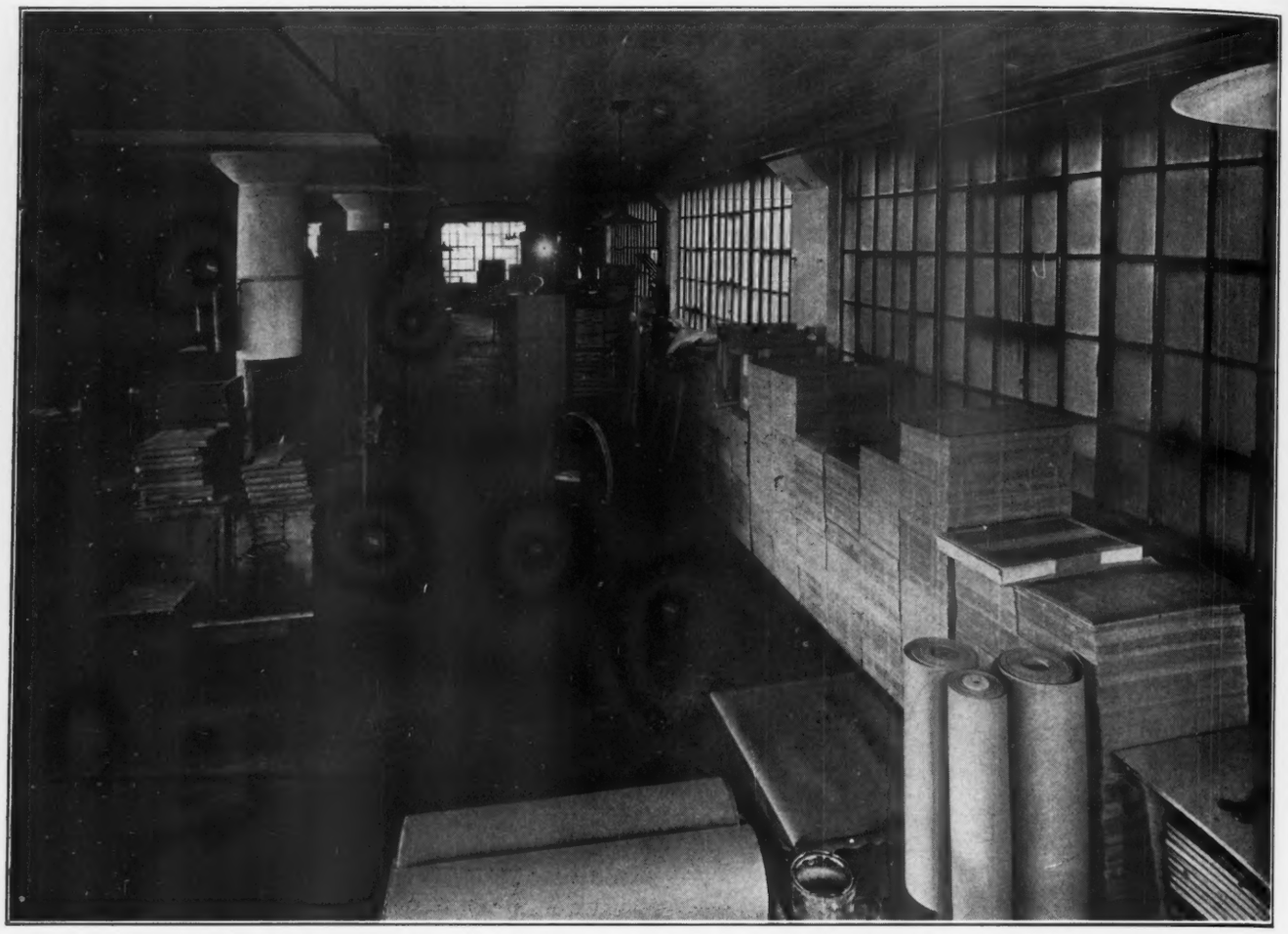
16 standard magazine pages

4 colors

4800 sheets per hour



THE SUPPLY HOUSE OF THE STEREOTYPE TRADE



"VIEW OF PLAIN FELT STOCKROOM OF A. P. S. PLANT AT LYNN, MASS."

Asbestos, Cloth, Paper and Thread
Belting
Blanket Punch
Blocking Wood
Blotter, Tissue and Brushes
Bumping Pads
Cellophane
Cemer Heat Cage
Chisels
Circular Saws
Conveyor Wire
Cork Molding Blankets
Cut Mounting Tissue and Cement
Cutting Rubbers and Sticks
Depthometer
Direct Pressure Molding Felt
Drawsheets
Drills
Dryers
Dry Matrices
Dry Mat Storage Box
Dust Blower
Electrotypers Rubbers
Flat Bed Press Blankets
Form Trucks
Fuzon Packing Felt
Graphite
Grinder
Gummed Packing Felt
Hand Mitts
Heating Units
Ink Hose
Ink Pump
Jig Saw Blades
Keyboard Rollers
Linotype Parts
Make Up Rule
Mallets
Mat Facer

CORK MOLDERS

SUPERIOR (Hard)
METROPOLITAN (Medium)
SYNDICATE SPECIAL (Extra Thick)
ECONOMIC (Soft)
STANDARD (Extra Soft)

Especially designed for dry mat molding with exact density to give proper molding depth and insure perfect plates. No fractured mat surfaces. No broken type. After years of experimenting, we offer cork blankets to meet the exact requirements.

DISCOUNTS FOR QUANTITY

PACKING FELTS

Gummed : Plain : Sheets : Rolls

Cut into strips at no extra charge

Matrix Sealing Tape
Matrix Shears
Metal Flux
Metal Pot Units
Metal Trucks
Nails and Tacks
Oiling Pads
Packing Felt
Packing Felt Moisteners
Paper Rewind
Paper Roll Trucks
Paste
Photographic Flash Lamps
Plate Truck
Plain Packing Felt
Planer Blocks
Press Blankets
Press Tape and Eyelets
Pressed Wool Molders
Proof Press Ink and Blankets
Pyrometer
Routers and Router Bits
Router Belts
Rubber Molding Blankets
Rubber Creepers
Scorchers
Sharpening and Grinding
Side Planes
Speed Scorcher Attachment
Stereo Equipment for job plants
Switches
Tailboards
Tape Couplers
Thermostats, Timers and Wire
Type High Gauges and Line Gauges
Wax Overlay
Woven Wool Molders and Creepers

AMERICAN PUBLISHERS SUPPLY
WEST LYNN, MASSACHUSETTS

IT WILL PAY YOU

In Reliable, Low-cost Performance

TO *Look into*

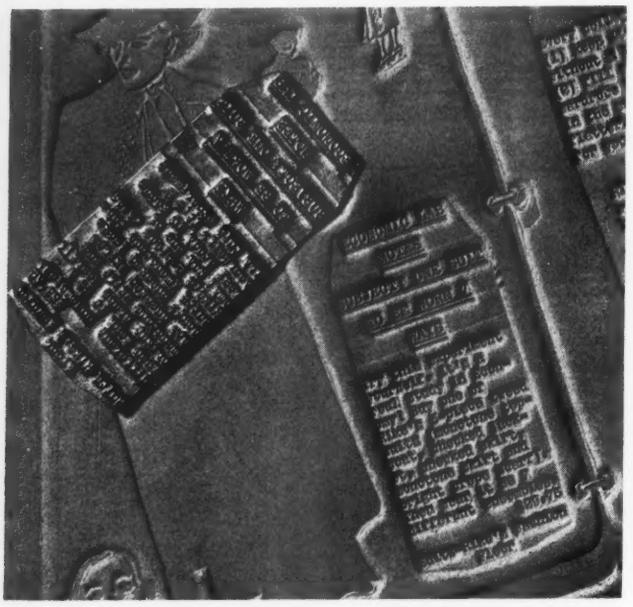
THE EXCLUSIVE LINE OF

Model "A"

FORM-O-SCORCH

Nearly three hundred successful installations, all sold on merit alone, have proven the advantages of this machine. Try it on your floor without obligation for a month before selecting your next mat scorching machine. Its speed, efficiency and economical performance will convince you.

AMERICAN PUBLISHERS SUPPLY
WEST LYNN, MASSACHUSETTS



Photographic reproduction of section of full newspaper page size stereotype mat molded from a form in which two zinc-thick stereotype casts have been laid in the open spaces of a zinc etching. In this picture at upper left is shown the zinc-thick stereotype plate which was laid in the panel at lower right. The zinc cuts were laid on Elrod base running horizontally across the page. Rather than cut angular mortises in the Elrod base, Earl F. Geiger, manager of the Geiger Stereotype Company, Dayton, Ohio, made a zinc-thin stereotype cast from a dry mat previously molded from type set up for the mortise. The time required for molding the mat and casting the two zinc-thick stereotype insets was 15 minutes.

Zinc-Thick

Stereotype Plates Used for Angular Insets

By STAFF WRITER

ZINC-THICK stereotypes are uncommon but are being used frequently by Earl F. Geiger, manager of the Geiger Stereotype Company, Dayton, Ohio, These extremely thin stereotypes are used for angle insets to fill open spaces in zinc etchings which have been mounted upon Elrod base in a form. The demand for the insets is created by the customer who may wish to change reading matter or add type matter where it does not exist in the proof.

Previous to casting the thin stereotype plate, a dry mat is made from the type matter which is to be laid in the form in angular position.

In the plant of the Geiger Stereotype Company a set of bars for the casting box was cut from sheet zinc obtained from the photoengraving department. If the material is laid closely about the type or cut to be cast, it will provide a shallow bolster, which in turn will not break up the flow of metal at the time of making the cast and will fill out all details in the mat for clear reproduction.

The important detail in casting zinc-thick plates is to center the mat of cut or type, or both, in the middle of the casting box. This permits the metal to flow freely as it comes up from the bottom of the box.

When first starting to make these thin casts, Mr. Geiger states the mat was put in the bottom of the box, as is usually done when shell casts are made, but by the time metal reached the mat (owing to the thinness of the cast) the metal flow was broken and the bolsters came through the shell. By putting the mat in the center of the box and casting tail material at top and bottom, a perfect cast is obtained with the first pouring.

Carl G. Myers

Carl G. Myers, now representing the Linotype Company in eastern Nebraska and North and South Dakota, is a practical printer, operator, machinist, and knows a lot about mechanical engineering. After two years of college work he became an operator in 1921. From 1927 to 1930 he served in a research engineering job that put him in close touch with practical phases of mechanical engineering, and he was given a junior membership in the American Society of Mechanical Engineers.

In 1930 he went to St. Louis and worked as machinist for the St. Louis Typesetting Company, and later concentrated on general Linotype servicing in that territory. He had been in St. Louis about six years, when he moved to Chicago on March 1 of this year.

View of Form-O-Scorch assembling room in the American Publishers Supply Plant at Lynn, Mass. Expanding to larger quarters four times during the past ten years, APS now occupies the entire third floors of two adjoining buildings with a total floor space of 110,000 sq. ft.

In addition to the machine shop as pictured above, the plant is equipped with all modern apparatus for cutting, gumming and handling newspaper felts. A battery of six modern packing felt cutters capable of cutting 3800 strips a minute and maintained by two men is one of the newer developments. Two new paste mixers have been installed. The sheet metal shop has been completely equipped with heavy rolling and cutting machines for gross production. Offices occuyping the street side of the building are double the space previously used.

PUBLIC OPINION

CHAMBERSBURG'S NEWSPAPER

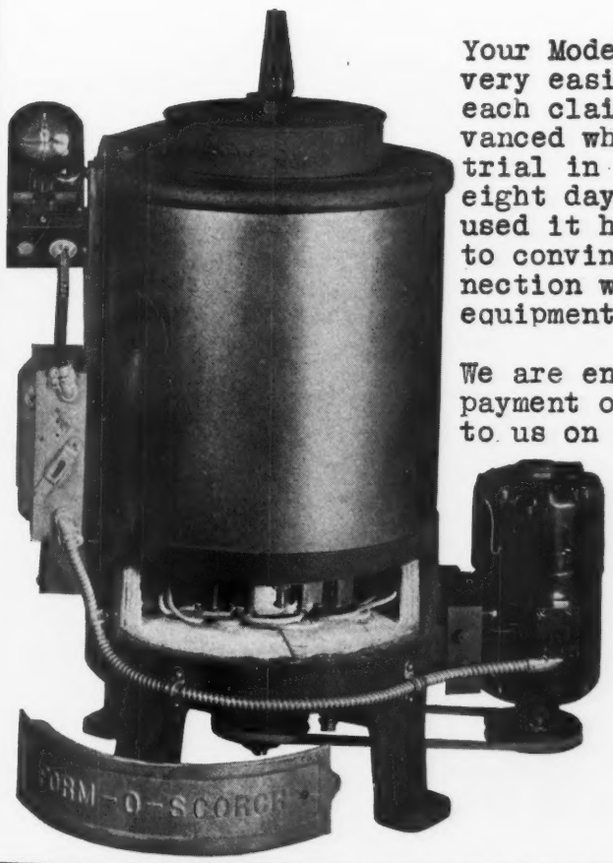
EVENING DAILY
EXCEPT SUNDAY

CHAMBERSBURG
PENNSYLVANIA

September 25
1 9 3 5

American Publishers Supply
P. O. Box 131
West Lynn, Mass.

Gentlemen:



Your Model "S" Form-O-Scorch machine very easily and quickly substantiated each claim of performance you advanced when you urged upon us its trial in our stereotyping room. The eight day period in which we have used it has been more than sufficient to convince us of its worth in connection with our Duplex Tubular equipment.

We are enclosing our check in full payment of the Form-O-Scorch sent to us on a trial basis.

Very truly yours,

PUBLIC OPINION

H. S. Foltz

Graphic Arts

Technical Conference Program Made Up of Important Topics

By STAFF WRITER

THE Graphic Arts Research Bureau and the Graphic Arts Division of The American Society of Mechanical Engineers sponsored the second meeting of the Graphic Arts Technical Conference at the Wardman Park Hotel in Washington, D. C., on May 11, 12 and 13. Co-sponsors of the meeting were the Government Printing Office, the Washington Club of Printing House Craftsmen, the Graphic Arts Association of Washington, D. C.

The Arrangement Committee consisted of Hon. A. E. Giegengack, General Chairman; Wm. N. Freeman, Vice Chairman; Geo. M. Duncan, Vice Chairman, and Harold G. Crankshaw, Secretary.

W. G. Dodge, New York Daily *News*, was chairman of the Papers Committee; F. C. Clark, Skinner & Sherman Co., headed committee for the Paper-and-Ink Session; J. Homer Winkler, the Ace Electrotype Co., Cleveland, looked after the Metal Session; T. E. Dalton, of Hearst Magazines, Inc., was assigned the Evaluation Session, and Wm. C. Glass of the U.P.M.-Kidder Press Co., the General Session.

The program was as follows:

MONDAY, MAY 11

8:00 A. M. REGISTRATION

9:00 A. M. PAPER AND INK SESSION (Hotel)

Chairman: V. WINFIELD CHALLENGER, N. W. Ayer & Son, Inc.
Opening Welcome—HON. A. E. GIEGENGACK
Paper and Its Application to Printing—ARTHUR S. ALLEN, Color Engineer, New York
Permanence and Durability of Printing Papers—M. KANTROWITZ, Government Printing Office
Quick Drying Inks—E. L. DUHRING, Director of Research, F. H. Levey Co.
Discussion opened by W. J. RISLEY, JR., Curtis Publishing Co.
Further Discussion of Paper Problems, if time permits, by WM. MAULL, C. G. WEBER and FRANK WAGNER

2:00 P. M. METAL SYMPOSIUM (Hotel)

Chairman: EDWARD EPSTEAN, Walker Engraving Co.
Sheet Zinc for Photo-Engraving—WM. H. FINKELDEY, Singmaster and Breyer Co.
Impression Lead for Electrotype Molding—HOWARD BAKER, Reynolds Metal Co.
Photo-Engraver's Zinc—ERNEST W. SPENCER, Asst. Tech. Dir., Government Printing Office
Sheet Brass for Photo-Engraving—B. H. MCGAR, Asst. Dir. of Research, Chase Brass and Copper Co.
Sheet Copper for Photo-Engraving—R. W. MYERS, Metallurgist, C. G. Hussey & Co.
Constitution and Properties of Type Metals—SAMUEL EPSTEIN, Metallurgist, Battelle Memorial Institute

6:30 P. M. INFORMAL DINNER (Hotel)

Toastmasters: A. C. JEWETT, Chairman of GARB and A. E. GIEGENGACK, Public Printer
Special Entertainment
Speaker: DR. VILHJALMUR STEFANSSON, Arctic Explorer, will give an amusing and informative talk on "The Standardization of Error." Dinner will adjourn early.

TUESDAY, MAY 12

9:00 A. M. EVALUATION OF PROCESSES SESSION (Hotel)

Chairman: JOHN CLYDE OSWALD, Gregg Publishing Co.
This Session will discuss the Application and Evalution of Relief, Lithography and Gravure Printing Processes. Their merits, scope and limitations will be analyzed, the object being to guide the printer in expanding his facilities and the buyer in selecting the best process to fit the job.
Relief Process—FRED W. HOCH, Hoch Associates, Inc.
Lithograph Process—W. J. WILKINSON, Zeese-Wilkinson Co.
Gravure Process—M. R. TELLISSIER, Gravure Foundation.
Discussion by Executives of Gravure Plants and others

2:00 P. M. GENERAL TECHNICAL SESSION (Hotel)

Chairman: B. D. STEVENS, Miehle Printing Press & Mfg. Co.
Where are the Profits?—C. O. WELLINGTON, Scovell & Wellington, and President of American Institute of Consulting Management Engineers
Photo-Mechanical Tone Reproduction—ALEXANDER MURRAY, Eastman Kodak Co.
Nitric Acid Etching of Zinc in Photo-Engraving—E. R. BOLLER, Chemist, Grasselli Chemical Co.
Heat Treated Electrotypes—R. H. SCHWARZ and J. H. WINKLER, Ace Electrotype Co.
Printing Press Drives—W. L. WRIGHT, General Electric Co., (By title only.)

WEDNESDAY, MAY 13

Open for visits to Government Printing Office and Bureau of Engraving

Reproduction Proofs

By R. O. VANDERCOOK*

THERE is now a great need for improved methods of taking proofs economically of type forms and cuts for photographic reproductions. The use of the camera in the Graphic Arts is rapidly increasing. Printing suitable for photographic reproduction *can be* produced on many presses if the operator has sufficient patience, skill and time to carefully makeready his form. I believe that anything that will save the time of a skilled operator must be considered if we are to get good results economically.

The cylinder and bed of the press must be most accurately machined and limits held that were thought impossible a few years ago. The impression must be so rigid that no impression adjustments are needed for the lightest or heaviest forms and the register must be absolute. To save time in working up the ink for proper coverage, power ink distribution is an advantage.

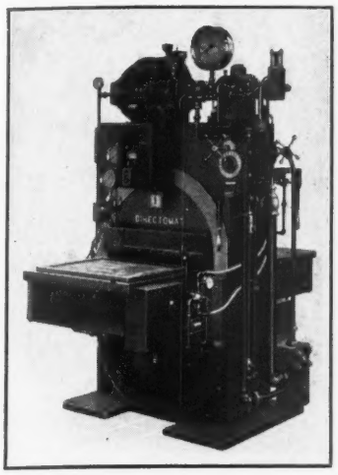
But care in building and operating the press are not the only essentials to get good prints for photographic reproduction work economically. It is much more economical to know, before the form goes to press, that the cuts are just right as to height and etching and that there are no imperfect or worn characters in the type, than to have the skilled operator of the press take his time to build up or cut down the cuts and remove defective slugs or type from the form. Overlays can correct many of the errors in construction of a press and the imperfections of printing surface but overlays take skill and time. The proper testing of cuts and type casts before a form is made up is a much more economical operation than to pass all that work on to the pressman.

*Vandercook & Sons, Inc., Chicago, Ill.

Reference Book Excellent

I read with interest your magazine and have only bouquets for it. Your 1935 Reference Book was excellent but your 1936 book is better.

Wm. V. Cavena, Asst. Supt.,
U. S. Printing & Litho Co.,
Baltimore, Md.



DIRECT PRESSURE—OR ROLLING?

WHERE IS THE LOGIC in moulding a few lines of type at one time on a Matrix Roller when an entire form can be moulded in one squeeze on a DIRECTOMAT Matrix Press?

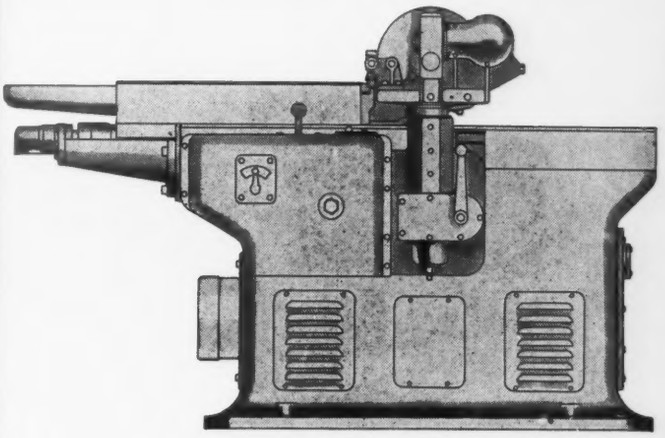
Why put up with the inherent tendency of the Roller to push the type off its feet, crush weak slugs and electrotypes, break the kern of italic type, turn over rules, spread electrotypes and zincs, thicken the screen dots of half-tones, and cause hard edges, when the DIRECTOMAT eliminates every one of these troubles?

Why put up with the stretch and distortion of roller-moulded mats when the DIRECTOMAT completely eliminates stretch, thereby saving in many cases as much as 1/8 of an inch of newsprint or white margin per page?

Why reset standing want ads three times more often than necessary when the DIRECTOMAT saves about two-thirds of the cost of resetting of standing matter as compared with the roller method?

Why laboriously "pencil" head lines, foot lines and open spaces on mats when the beautiful, square impression obtainable on the DIRECTOMAT makes much of this work unnecessary?

Communicate with our representatives at the A. N. P. A. Mechanical Conference, Palmer House, Chicago.



MILLING—OR SHAVING?

Why run a flat stereotype *several* times through a Shaver to obtain the desired thickness when the LAKE ERIE TWO-IN-ONE Milling Machine produces the exact predetermined plate thickness in *one* operation?

Why use a Rougher to take a rough cut and then a Shaver to take a finishing cut from electrotypes when *both* operations can be performed more quickly and more accurately on the TWO-IN-ONE Milling Machine, as the name implies.

Why spend extra time and effort in casting, sawing, trimming and handling *type-high* stereotypes when the TWO-IN-ONE Milling Machine will satisfactorily mill stereotype *shell* plates without the old risk of buckling them?

Why put up with frequent grinding of knives of Shavers when the TWO-IN-ONE Milling Machine with its high speed tool steel rotary cutter eliminates about 90% of this work and expense?

Why be satisfied with anything *less* than the .001 inch accuracy in plate thickness obtainable with the TWO-IN-ONE Milling Machine?

It is as human to rebel at ordinary standards as it is wise to want that which is recognized to be the best of its kind—the TWO-IN-ONE. Nothing less pays so well in efficiency or as an investment.

LAKE ERIE STEREOTYPE EQUIPMENT COMPANY

Ind. Division of Lake Erie Engineering Corp. **Kenmore Station, Buffalo, N. Y.**

New Things for Progressive Printer

New Four-Magazine Intertypes

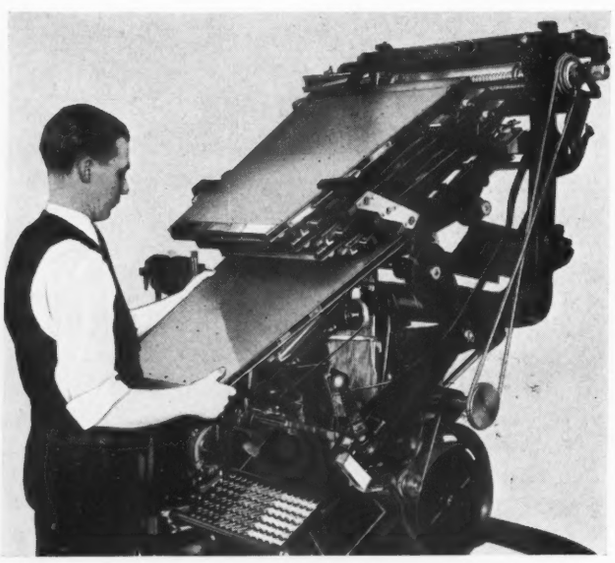
The Intertype Corporation is announcing four new four-magazine machines. In general these new machines are similar to Intertype Models C, F, G, and H, excepting that the new models have from one-third to double the magazine capacity of the older models.

Four-Magazine Model C

The Four-Magazine Model C is a non-mixer and carries four standard 90-channel magazines. Changes from one magazine to another are made by means of the three-revolution crank-and-chain shift.

Four-Magazine Model H

Another of the new models, the Four-Magazine Model H, like the Model C, is a single-distributor or non-mixer machine. The Model H differs radically from the Model C, however, in that it carries four wide 72-channel magazines in place of the standard 90-channel magazines. The wide magazines are designed for carrying headletter and other display matrices, particularly the larger matrices which would be too wide for a standard magazine. On the new Model H machine, as on the Model C, the operator changes from one magazine to another by means of the Intertype chain shift.



View of operator removing magazine from the slide on Intertype's new four-magazine Model C machine. All magazines—full length or split—are removed from the front of the machine.

Four-Magazine Mixers

The other two new Intertypes, Models F and G, are Mixer machines. On these machines, matrices from the first and second or from the third and fourth magazines can be assembled and mixed together in the same line. Operating changes from one magazine to another of the pair in operating position are made on Mixer Intertypes by means of a small lever, the action involving the movement of a keyboard rod rack underneath the double set of magazine escapement rods. Changes from one pair of magazines to the other pair are made (the same as on Models C and H), by means of the crank-and-chain shift. In other words, the chain shift is used to bring either upper or lower pair of magazines into operating position.

The new Four-Magazine Model F Intertype carries four standard 90-channel magazines. These magazines are interchangeable on Intertype Models A, B, and C, as well as on the two-magazine Model F Intertype. The Four-Magazine Model G machine has different magazine equipment. Like the two-magazine Model G, this new Intertype is a combination machine. It carries two standard 90-channel magazines and two wide 72-channel magazines. A 72-channel magazine is superimposed above a standard 90-channel magazine. Either upper or lower pair of magazines may be brought into operative position by means of a three-revolution turn of a hand crank and magazine chain shift as used on models C and H. The operator may change from one magazine to the other of the pair which is in operative position by moving a small lever at the right and above the keyboard.

Handling Magazines

On all four of the new Four-Magazine Intertypes, either full-length or split magazines can be used in any position, and the split magazines can be either half length or three-quarter length. All magazines, full length and split, are removed and replaced from the front of the machine. When replacing a magazine, the operator moves the magazine to be changed forward and downward on a slide where it is convenient to lift from the slide. The magazine to be substituted is placed on the slide. Both slide and magazine are then pushed upwardly into position in the magazine cradle.

Newly Improved Router

The Challenge Machinery Company has announced an improved model of the Challenge Portable Router. The latest feature is a built-in electric work light, located directly above the opening in the base. A powerful beam of light is thrown directly on the section of the

View of Challenge New Router with built-in work light.

THE KLUGE'S POPULARITY

The fact that Kluge Automatic Presses are being installed as fast as they can be built and shipped is due, in the main, to one thing: our honest endeavor to meet the printer's requirements.

The printer's primary requisite is a press that will turn out first-class work at a good profit. Printed impressions cannot be produced at lower cost than on a Kluge, and few presses can produce better work.

Speed is also an important factor, and the Kluge has all the speed practicable for a general purpose press. This has been made possible by precision craftsmanship and the use of high-grade materials.

Adequate controlled distribution is another essential to good printing. The Kluge system of Selec-Tone distribution is controlled on both fountain and disc and embodies two distributing rollers with rider and four form rollers with two adjustable vibrators, providing perfect coverage for any kind of job.

Every printer likes to know that he has impressional strength in reserve for die-cutting, embossing and other special jobs. The Kluge is the heaviest press for its size built today—in spite of the use of aluminum alloys to reduce reciprocating weight and increase speed—and its patented throw-off insures an unyielding impression under all conditions.

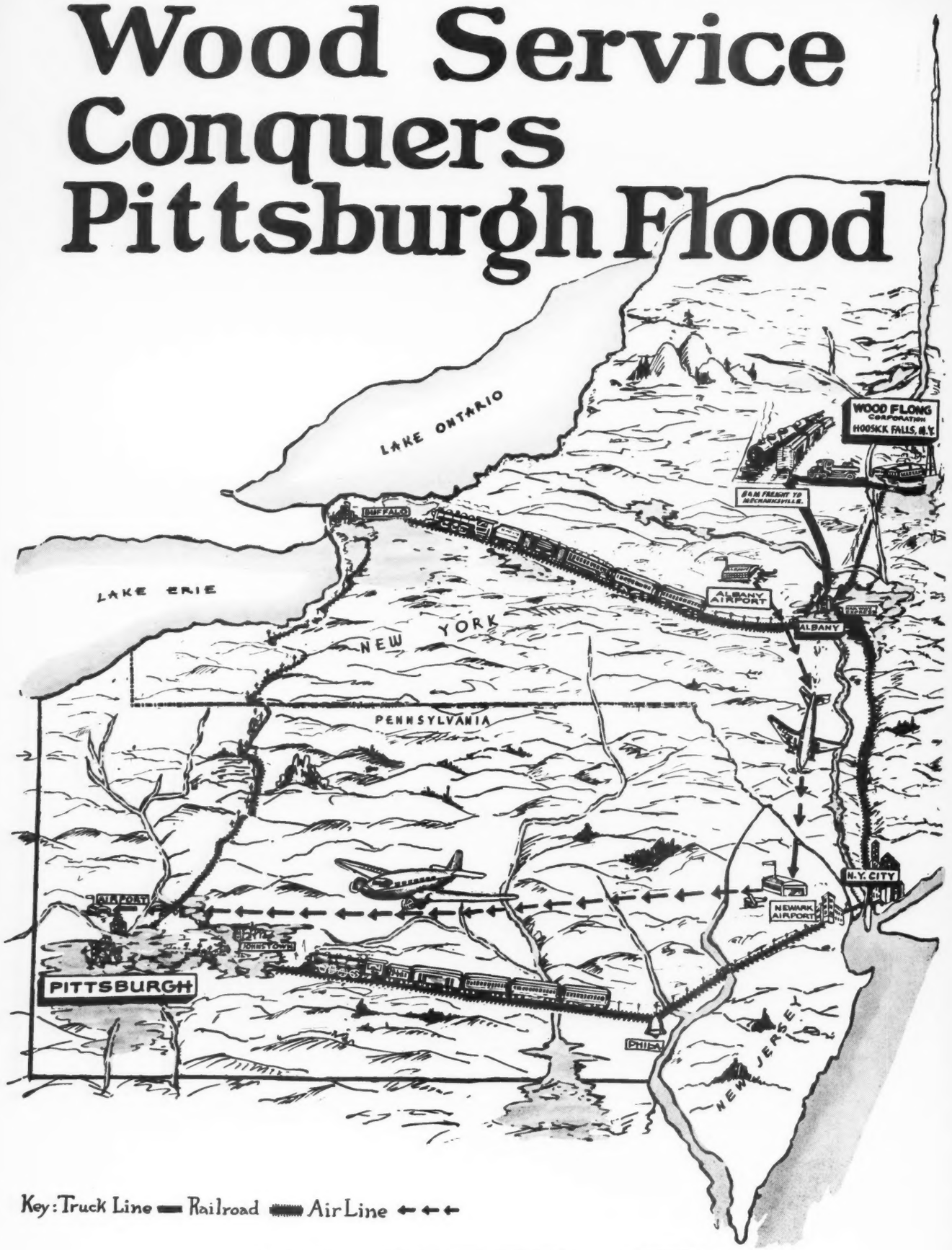
Add to these remarkable features the well-known Kluge Feeder, and the printer has a unit which cannot be surpassed for versatility, reliability and all-round profitable service. The Kluge's original cost is entirely reasonable and its upkeep expense practically negligible. Drop us a line, and we'll be glad to go into further detail about this profit-making press.

BRANDTJEN & KLUGE, INC., St. Paul, Minn.

Branches with Operating Exhibits

NEW YORK, 77 White St.; PHILADELPHIA, 253 N. 12th St.; BOSTON, 27 Doane St.; DETROIT, 1051 First St.; CHICAGO, 106 W. Harrison St.; ST. LOUIS, 2226 Olive St.; DALLAS, 217 Browder St.; ATLANTA, 150 Forsyth St., S. W.; SAN FRANCISCO, 451 Sansome St.; LOS ANGELES, 1232 S. Maple Ave.

Wood Service Conquers Pittsburgh Flood



WOOD DRY MATS

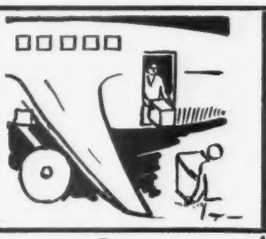
WOOD
FLONG CORPORATION
HOOSICK FALLS, N.Y.

WOOD DRY MATS

The Chain of Events

March 18th—2:15 P.M.

Received telephone call from PITTSBURGH SUN-TELEGRAPH—"Must have mats immediately." WOOD FLONG Mill closed—completely without power but "shipment must be made."



March 19th—11:30 A.M.

Two cases of mats transferred from express office to Albany Airport.

March 18th—2:45 P.M.

Instructed B & M freight agent in Mechanicville to hold yesterday's shipment of 5 cases consigned to the SUN-TELEGRAPH.

March 19th—11:49 A.M.

American Airlines plane left Albany Airport with WOOD Dry Mats aboard. Power resumed in Hoosick Falls.

March 18th—3:15 P.M.

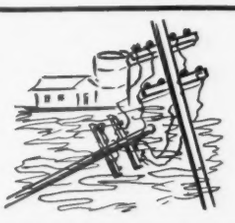
Our truck left for Mechanicville to transfer mats to Albany express office.

March 20th—9 A.M. to 5 P.M.

In constant touch with PITTSBURGH SUN-TELEGRAPH endeavoring to facilitate delivery of mats.

March 18th—5:00 P.M.

WOOD FLONG truck arrived in Albany. One case of mats expressed via New York City and two cases via Buffalo. Two others retained at express office pending further developments.



March 21st—9:00 A.M.

Impossible to contact PITTSBURGH SUN-TELEGRAPH.

March 19th—9:00 A.M.

Albany express agent advised both shipments delayed on account of flood.

March 21st—10:30 A.M.

Preparations made for sending WOOD FLONG truck to Pittsburgh with mats.

March 19th—10:30 A.M.

Arrangements completed with American Airlines to take two cases to Pittsburgh by plane.

March 21st—3:00 P.M.

American Airlines officials advised plane landed in Pittsburgh with mats the previous afternoon.

March 21st—5:00 P.M.

PITTSBURGH SUN-TELEGRAPH advised both express and plane shipments received thus meeting emergency measures.

WOOD DRY MATS

WOOD
FLONG CORPORATION
HOOSICK FALLS, N.Y.

WOOD DRY MATS

plate being routed. This new Challenge feature is also of great help when the router is used in connection with a Challenge Type High Unit.

The new model incorporates the standard features of one-point cutting control (single adjustment for raising or lowering router tool), easy-grip handles for accurate manipulation, transparent guard, special universal motor, toggle indicator switch, and fibre plate base.

Further information is available on request to the manufacturer, or through *Printing* EQUIPMENT *Engineer.*

Portable "No-Offset" Unit

The first Paasche "No-Offset" installations were of the permanent attachment type, requiring separate units for each press—then came the popular line type units. To make the Paasche "No-Offset" Process available to all printing shops and to make a more flexible application of the process possible, the company has placed on the market a new line of portable units, one type of which is illustrated here.

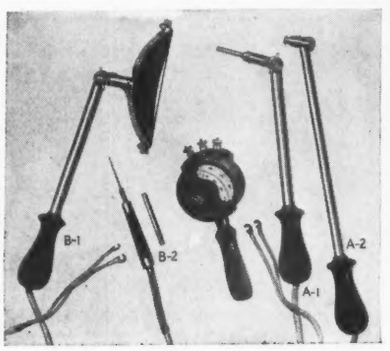
A new line of Portable "No-Offset" Units has been provided by Paasche to make its line of offset-preventing equipment more flexible.

These new portable units, it is said, are the same quality equipment and provide the same Paasche "No-Offset" Process as the "fixed" installations. The new portable units are automatic in action and are easy to adjust for *precision* airmisting. Slip-sheeting, racking, and ink-doping are eliminated through their use, the manufacturer claims it is possible to run the most intricate and delicate jobs as well as heavy color and metallic ink jobs at full press speed.

In addition to the Paasche Airbrush Company, the General Printing Ink Corporation (Specialties Division), 608 South Dearborn Street, Chicago, is now distributing the Paasche "No-Offset" Process line.

Surface and Needle Pyrometer

The Pyrometer Instrument Company announces an improved Pyro Surface and Needle Pyrometer with several different types of interchangeable surface and needle pyrometer elements. The temperature indicating range is from 30 deg. F. to 400 deg. F. Fitted with a suitable point selected from one of the several points available, the pyrometer may be used in paper and printing plants for determining the exterior temperature of rolls, molds and heated platens. The needle type may be used to determine the temperature of glue or other solutions.



This new pyrometer has interchangeable elements for surface and immersion taking of temperatures.

The indicator has two scales from 30 deg. F. to 400 deg. F. marked "A" and "B" and the respective scale is engraved on the metal tube of each attachment. Interchange of pyrometer elements is made by disconnecting the thermocouple leads and connecting the leads of any of the other elements to the respective terminals mounted upon the indicator.

The Type "A1" element is designed to determine the temperature of surfaces where a small thermocouple contact (about ¼ in. diam.) is required. The universal swivel joint allows the thermocouple to be placed in any angular position required to permit contact with the heated surface.

Type "A2" is an offset type for flat surfaces.

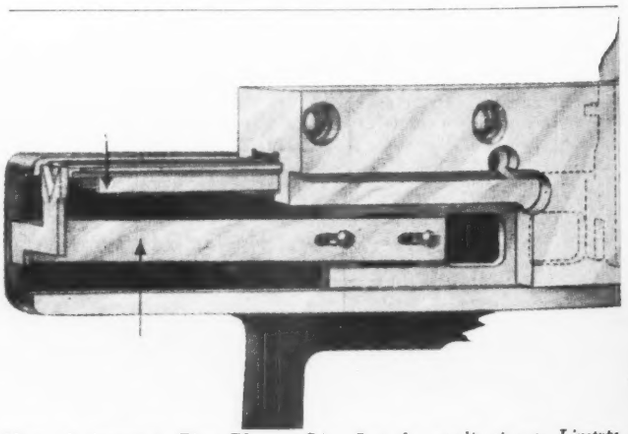
Type "B1" fashioned in a segment of a circle is for determining surface temperatures of stationary or moving rolls. In use, the strip thermocouple is pressed into contact with and conforms to the shape of the hot surface. Guides under the thermocouple serve to center the couple junction exactly upon the roll and at the same time prevent the instrument from being applied with excessive pressure.

Type "B2" is a needle pyrometer for determining the inside temperature of various materials in a plastic state, liquid solutions or glue.

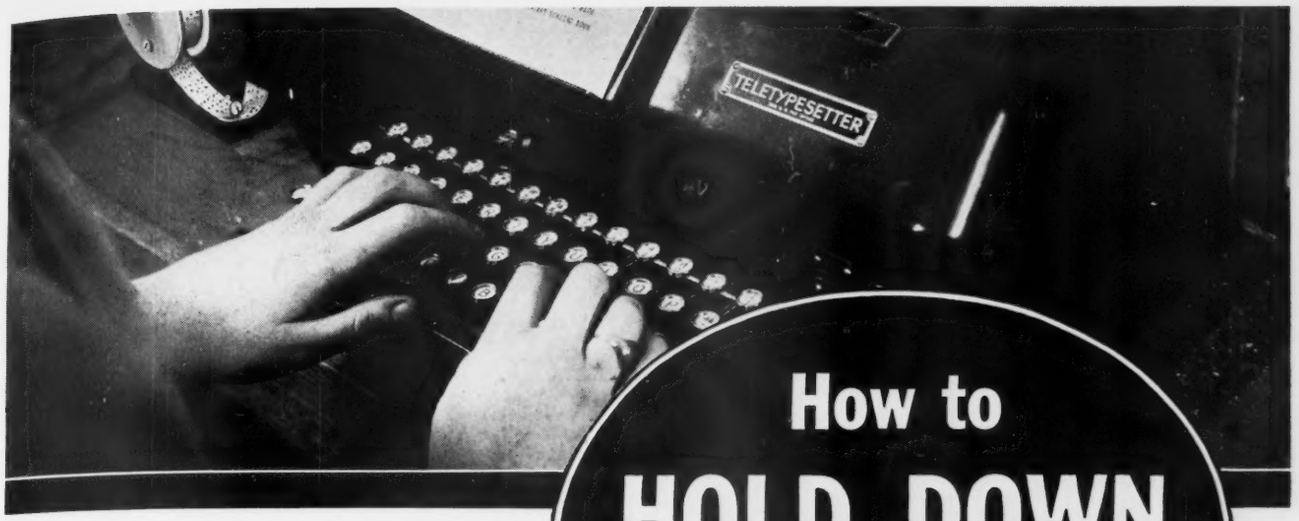
Automatic Line Stop

The Linotype Parts Corporation announces the development of an Automatic First Elevator Jaw Line

(*Continued on Page 100*)



View of Automatic First Elevator Line Stop for application to Linotype machines. The action of the line stop is automatic since it is pushed to position by the action of the delivery slide and the elevator transfer slide.



How to HOLD DOWN COMPOSING ROOM COST

—this year and every year

Progressive publishers use TELETYPESETTER —here's what some of them say:

"367 lines per hour per machine, in the paper, not including overset"

"1500 slugs per hour from 4 machines"

"$13,000 investment pays for itself every year"

"cleaner proofs"

"we are convinced that this equipment is ideal for our use"

"cost of type production cut in half . . . bigger papers"

"closer editorial control of copy"

"peak periods eliminated because machines operate continuously at top speed"

"just about doubles our output"

ELECTIONS coming—more news to print—bigger papers to get out on time. But you can keep your production costs from shooting up this year—and for years to come—by using TELETYPESETTER.

This equipment has proved a time and money-saver in newspaper plants. It makes the maximum speed of typecasting machines their *normal* speed and increases their output at least 50%.

The Tape Perforator works so fast that operators are producing tape for newspaper straight matter at the rate of better than 300 lines per hour.

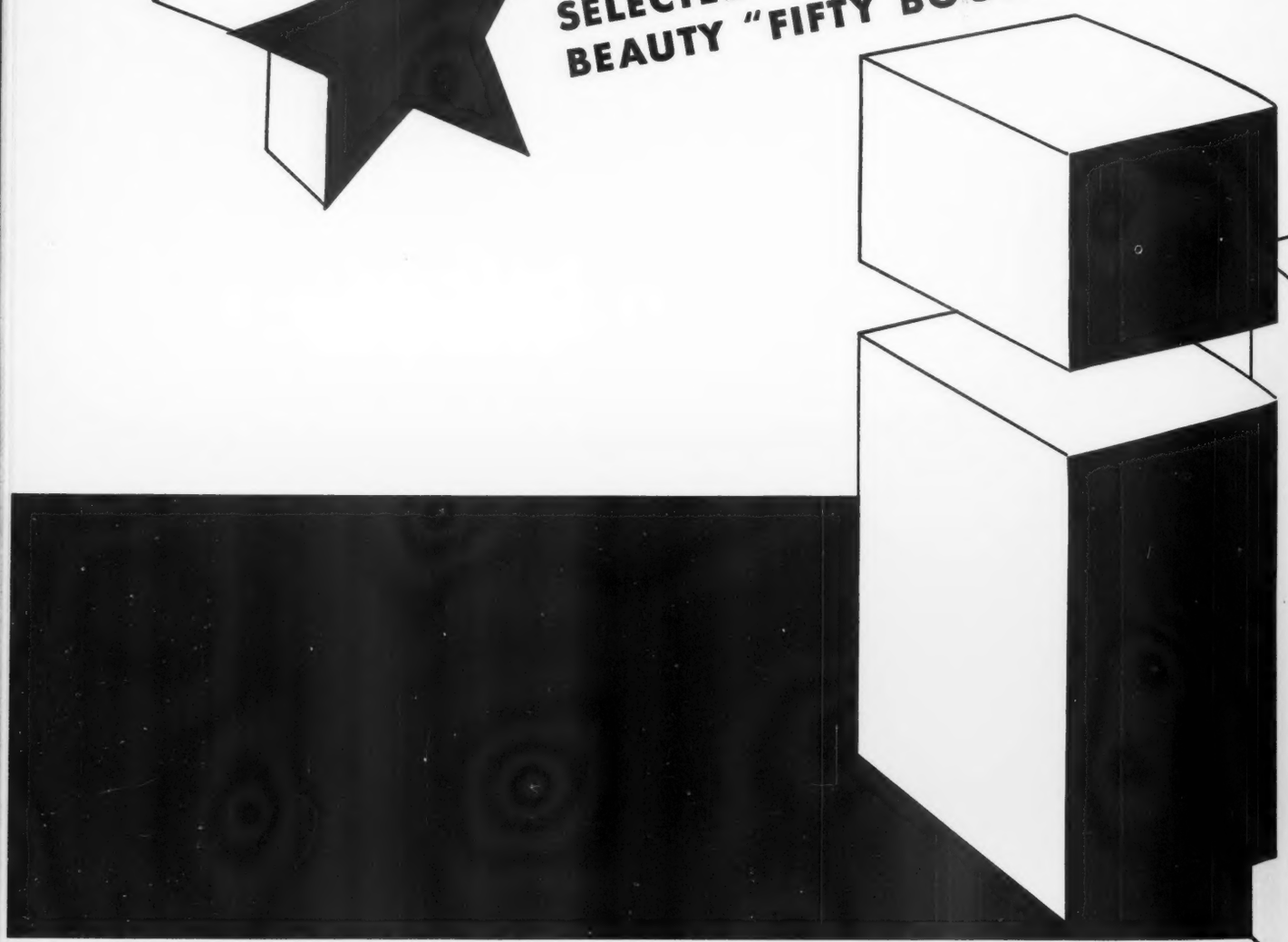
TELETYPESETTER units are simple in design—easy to operate—inexpensive to maintain. For details, write to TELETYPESETTER CORPORATION, 1400 Wrightwood Ave., Chicago, Ill.

TELETYPESETTER

works a linecasting machine at capacity!

GOLD MEDAL FOR COLOR RESEARCH
PROJECT OF YEAR MOST CONSPICUOUS
IN ADVANCING THE KNOWLEDGE
AND SCIENCE OF ADVERTISING

"THREE MONOGRAPHS ON COLOR"
SELECTED FOR CRAFTSMANSHIP AND
BEAUTY "FIFTY BOOKS OF THE YEAR"

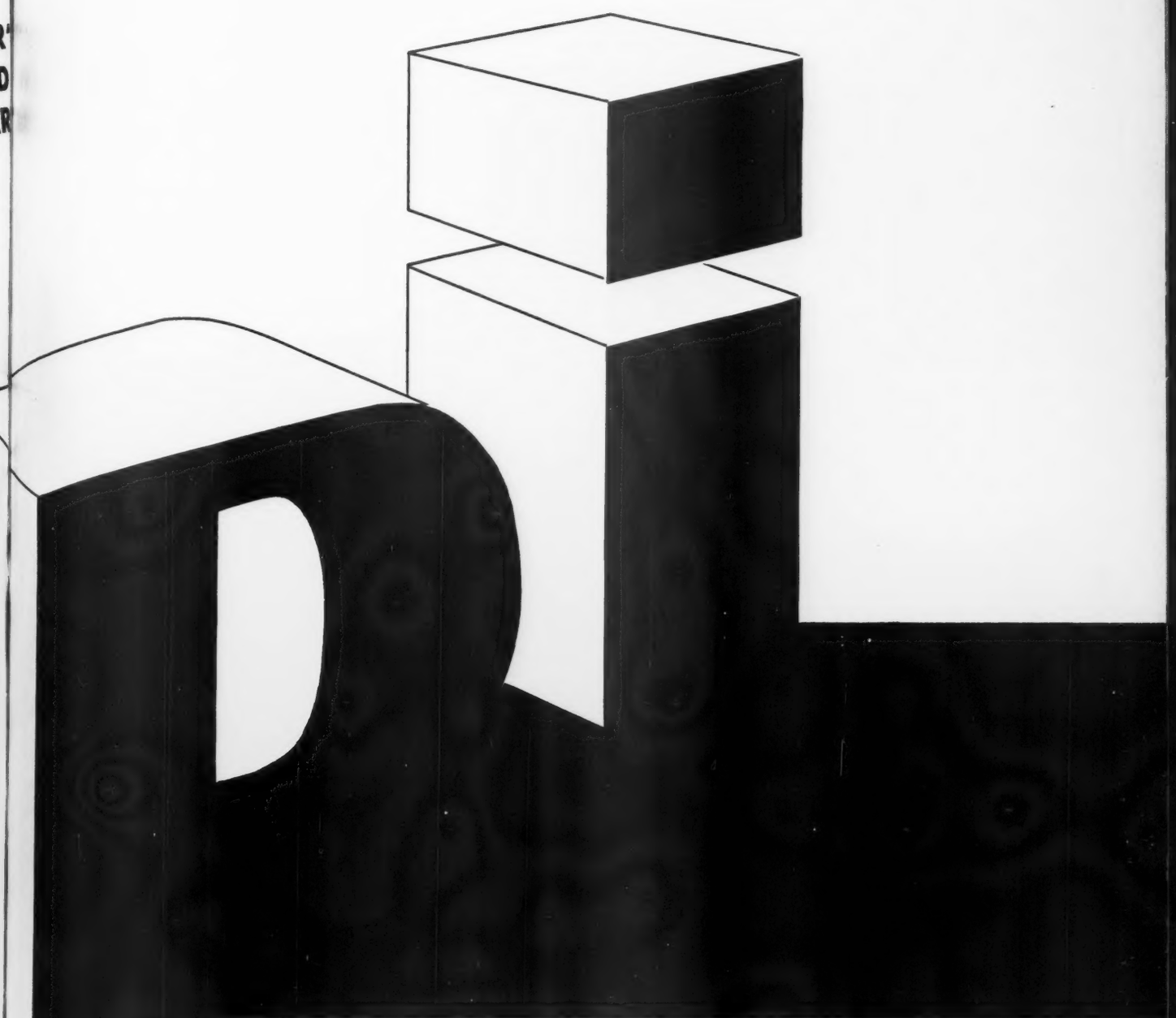


LEADERSHIP IN
ENDORSED BY T

I. P. I. has attained its position in the field of comic and web press color inks through the policy of keeping ahead of technical developments and sharing the knowledge thus secured with those engaged in the industry. The Research Laboratories, in New York, are equipped

THE INTERNATIONAL PRINTING INK CORPORATION

ATLANTA BALTIMORE BATTLE CREEK BOSTON BUFFALO CHICAGO CINCINNATI CLEVELAND DALLAS DETROIT KALAMAZOO KANSAS CITY LOS ANGELES



COLOR IS THESE AWARDS

with every modern laboratory necessity for testing promising developments and for initiating progressive moves. I. P. I.'s contribution in the field of comic and web press inks is acknowledged in the industry, yet The Research Laboratories are continuously seeking improvements.

THE INTERNATIONAL PRINTING INK CORPORATION

MILWAUKEE MINNEAPOLIS NEW ORLEANS NEW YORK CITY PHILADELPHIA RICHMOND ROCHESTER ST. LOUIS SAN FRANCISCO TORONTO WASHINGTON, D. C

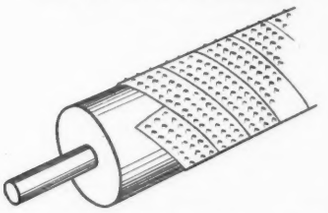
Stout Promoted

Charles H. Stout, formerly assistant to the president of the Matrix Contrast Corporation, has been elected vice president of that organization. Mr. Stout will continue to make his headquarters in the company's executive offices in the Empire State Building, New York.

Charles Stout who is well known among mechanical executives in the printing industry is now vice president of Matrix Contrast Corporation.

Lon. S. Landers is president of the Matrix Contrast Corporation and C. Yewdall is secretary-treasurer. In addition to its main office and its New York service plant, the company maintains a Chicago branch and its service men cover most of the country east of the Rockies.

Attaching Potato Grater To Idler Rollers



In addition to preventing offset in newspaper color work, the potato grater, mentioned from time to time in this magazine as being used at the Chicago Tribune, *helps to maintain register. It will be necessary, however, to clean out the ink accumulated in the grater points occasionally.*

The constant increase in the use of Style A Fillet (Potato Grater Steel) which is furnished in strips 1½-in. wide, has brought inquiries to Printing Equipment Engineer *for a method of attaching this material to idler or pipe rollers.*

The potato grater is wound spirally on the idler roller and can be applied most conveniently by chucking the roller in a lathe. Drill a hole in the roller and the grater material for the starting end. A nail can be driven through the holes in both grater and roller, cut off and riveted over to hold the grater starting end. After the grater has been wound on the roller, the finishing end may be fastened in a manner similar to the starting end. If it is deemed necessary, a nail rivet here and there throughout the length of the roller may be applied to hold down the grater. If preferred, small flat-head screws may be used instead of the nail rivets.

5.87c

Per Sq. In. Cost to Iowa Paper for News Photos and Plates in 1935

By Arnold Spencer*

AFTER successfully turning out our own news photographs and printing plates for more than a year, at the *Advocate-Republican*, we determined to find what part of our overhead could be attributed to our picture and plate-making facilities. Beginning January 1, 1935, we began keeping an accurate record of everything which affected ultimate printing-plate costs—from the photographs through to the press. After a year of careful checking, a final analysis was made. All labor charges and expenses for materials, used in both the photographic and photoengraving phases were carefully computed, and as a result, we have a definite basis for estimating future "picture costs."

We found during a twelve-month period (January 1, 1935, to January 1, 1936), that we had produced a total of 7,512 square inches, and that our per square inch expenditure amounted to 5.87 cents, which included the entire cost of "picture copy." To give you a clearer idea of what we have accomplished in the way of pictures, and at the same time to show how we arrived at our present cost system, we submit the following facts and figures, all based upon twelve months of continued operation:

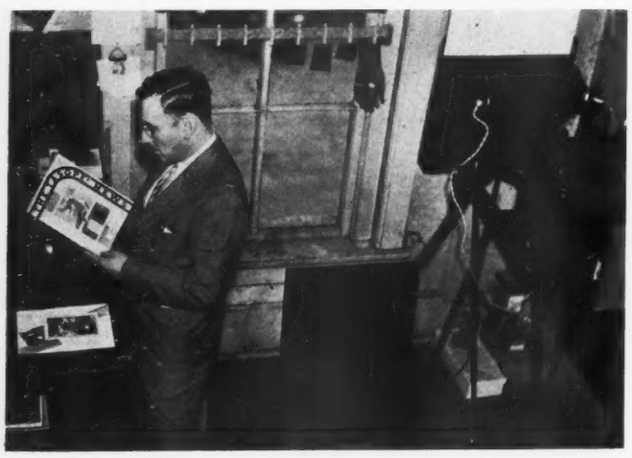
Cost of Operation

Materials used (including all photo supplies, as well as supplies for engraving)	$307.99
Net labor cost (cost of labor after deducting income from sale of pictures and engravings to other newspapers)	132.97
Total Cost	$440.96
Halftones produced for our own use	6310 sq. in.
Halftones produced and sold to neighboring newspapers	1202 sq. in.
Total halftones surface for 1935	7512 sq. in.
Cost per inch (including cost of all photo copy), 5.87c per sq. in.	

Roughly speaking, our one-column, three-inch plates averaged thirty-six cents each, which as in all other instances mentioned, includes the cost of the original photo. It will be noted that the *Advocate-Republican* carried 6,310 square inches of pictures—or nearly twenty-three full pages—at a cost of $16.44 per page. This, I believe, will stack right up with any news page cost.

By dividing our total maintenance cost for one year by 52 weeks, we find the average weekly cost for news plates in 1935 was $8.48. Believe me, it has been worth every cent of it—and more.

*Editor of The *Advocate-Republican*, Audubon, Iowa.



Photoengraving Department, the Advocate-Republican, *Audubon, Iowa.*

ON TIME!

You know what that means in terms of satisfied readers and satisfied advertisers. You know, too, that keeping the schedule may often be endangered through delays caused by inadequate press-drive equipment.

BETTER PRESS PERFORMANCE

The fact that 500 newspaper plants of all sizes are getting economical and reliable press performance from General Electric equipment is proof of the applicability of G-E equipment to your plant. G-E equipment will assure better press performance and provide added capacity.

COMPLETE PRESS-DRIVE SYSTEMS

General Electric manufactures a complete line of press-drive equipment—from motors and control to paper-break detectors and wire and cable. This means that you can have the convenience of dealing with one responsible manufacturer for all the electric equipment you need.

NEW DEVELOPMENTS

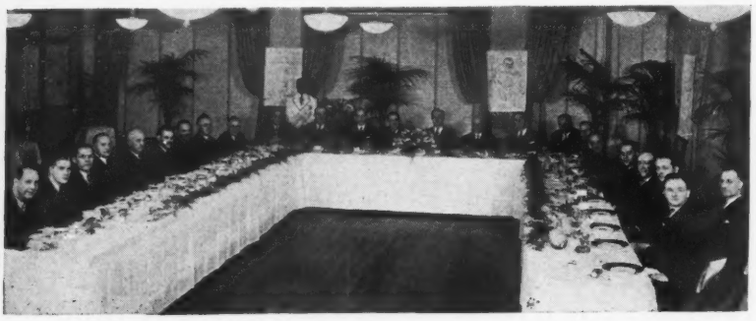
Recent improvements make possible higher speed and increased smoothness, safety, and efficiency. These refinements include two-speed drive motors, Thrustor operated brakes, and air-cooled resistors.

PROMPT SERVICE

It will pay you to investigate the distinctive advantages that G-E equipment and G-E service will provide. From no other single electrical manufacturer can you get so much in complete equipment and service. General Electric, Schenectady, N. Y.

020-235

GENERAL ELECTRIC



Reading from left to right are the executives and representatives of the sales organization of the Harris Seybold Potter Company who attended a surprise dinner in honor of Harry A. Porter who has been associated with the company for thirty years: Al W. Johnston, Chicago office; Herb W. Blomquist, New York office; C. W. Harrold, Chief Engineer; H. M. Hubbard, Secretary; Howard P. Bly, Factory Superintendent; M. L. Mann, Southern representative; Sam W. Morris, Twin City representative; A. T. Walker, Central District Sales Manager; Herbert F. Dixon, Philadelphia representative; A. S. Harris, Vice President in Charge of Engineering; J. W. Valiant, Vice President and Eastern District Sales Manager; N. L. Daney, General Manager; H. A. Porter, Vice President in Charge of Sales; R. V. Mitchell, President; A. F. Harris, Chairman of the Board of Directors; Walter H. Newey, New England and Canadian representative; William Guy Martin, Vice President and Chicago District Sales Manager; William Heiser, New York Service Manager; R. K. MacNeal, Central District representative; C. R. Kaddeland, Special Sales Engineer; R. R. Perry, Chicago representative; John L. Bluemer, Chicago Service Manager; R. H. Randall, St. Louis representative; H. B. Markle, Purchasing Agent; C. G. Ludlow, Cleveland Sales office. George L. Coffman, Pacific Coast representative, was unable to be present.

Porter's Thirtieth Anniversary Celebrated By HSP Executives

On Monday evening, April 13, the entire sales organization of the Harris Seybold Potter Company, together with the executives, gathered in Cleveland to give H. A. Porter, vice president in charge of sales, a surprise dinner on the thirtieth anniversary of his connection with the Harris Seybold Potter Company.

R. V. Mitchell was toastmaster and called on A. F. Harris, N. L. Daney, William Guy Martin, J. W. Valiant, A. S. Harris, H. F. Dixon, A. T. Walker and William Heiser for short talks.

Walter H. Newey made the presentation of a fine walnut cellarette completely equipped, to Mr. Porter on behalf of his associates.

Hung about the room were cartoons by Rosenberg, depicting some of the events of Mr. Porter's life. A floor show was given to add to everyone's enjoyment.

Prior to the dinner, hors d'oeuvres were served in an adjoining parlor at a table bearing an illuminated ice block showing the figure "30", typifying Mr. Porter's thirty years with the company.

This party came as a complete surprise to Mr. Porter.

Plain Dealer Promotion

Mort Moeder, Superintendent of the Cleveland *Plain Dealer* composing room, has announced the appointment of Frank C. Cornell to the position of chief machinist to succeed Mac Sinclair. The appointment was effective April 27.

Mr. Cornell came to the *Plain Dealer* in 1908 as a machinist apprentice when H. D. Ashby and A. E. Pope were superintendent and machinist respectively. The plant at that time consisted of less than half the number of machines at present in use. Mr. Cornell's service to the *Plain Dealer* has been uninterrupted. For sixteen years he has been in charge of the plant at night. As might be supposed by those who know him personally, Mr. Cornell has a record for faithful service and serious consideration for the good operating condition of the composing machines at all times.

Norman Bellville, who has been associated with the *Plain Dealer* composing room personnel for fifteen years, is now in charge at night. Ed Hendrickson replaces Mr. Bellville on the day side.

This will introduce to you Frank C. Cornell, who is now Chief Machinist of the Cleveland Plain Dealer *battery of composing machines.*

E. B. Davis (left) was elected Vice President of the Ideal Roller & Mfg. Company recently.

Arthur Retzke, who was formerly assistant secretary, has been advanced to the position of Secretary of the Ideal organization.

The Ideal executive personnel has occupied its new air-conditioned offices in Chicago at 2512 West 24th St., Pilsen Station, which have been beautifully refurnished.

New Company Organized

It has been announced by Ray E. Johnson that the National Printing Appliance Corporation was organized recently in the state of New York. The company will produce a patented machine and process for cleaning Intertype and Linotype magazines and matrices. The process is known as "Klean-O-Mat," by the use of which, it is claimed, both magazine and a set of mats may be washed clean and dried in 45 minutes without running the matrices from the magazine.

The officers of the new incorporation are: President, Ray E. Johnson; Vice President and Secretary, E. Griggs Holt, and Treasurer, Milo W. Whittaker. The general offices and laboratory are in the Western Union building in New York.

Mr. Johnson has been connected with the printing and publishing business for 30 years, having been with the American Type Founders, the Intertype Corporation, and the Monomelt Company.

Split seconds count!

TIME is a vital element in the production of newspapers. Every phase of the work is closely timed and coordinated.

Fully realizing the importance of speed and the prominent part rollers play in the uninterrupted and smooth operation of giant newspaper presses, the manufacturers of Ideal DX Synthetic Newspaper Rollers have built into this product *service plus* in order to withstand the grueling grind at tremendous speeds.

DX Rollers require no breaking-in and possess a fine glass finish so desirable for turning out sharp, clear prints. A freedom from swelling obviates frequent regrindings and resettings. Friction and wear of rollers and sockets are eliminated by the softness of the DX material.

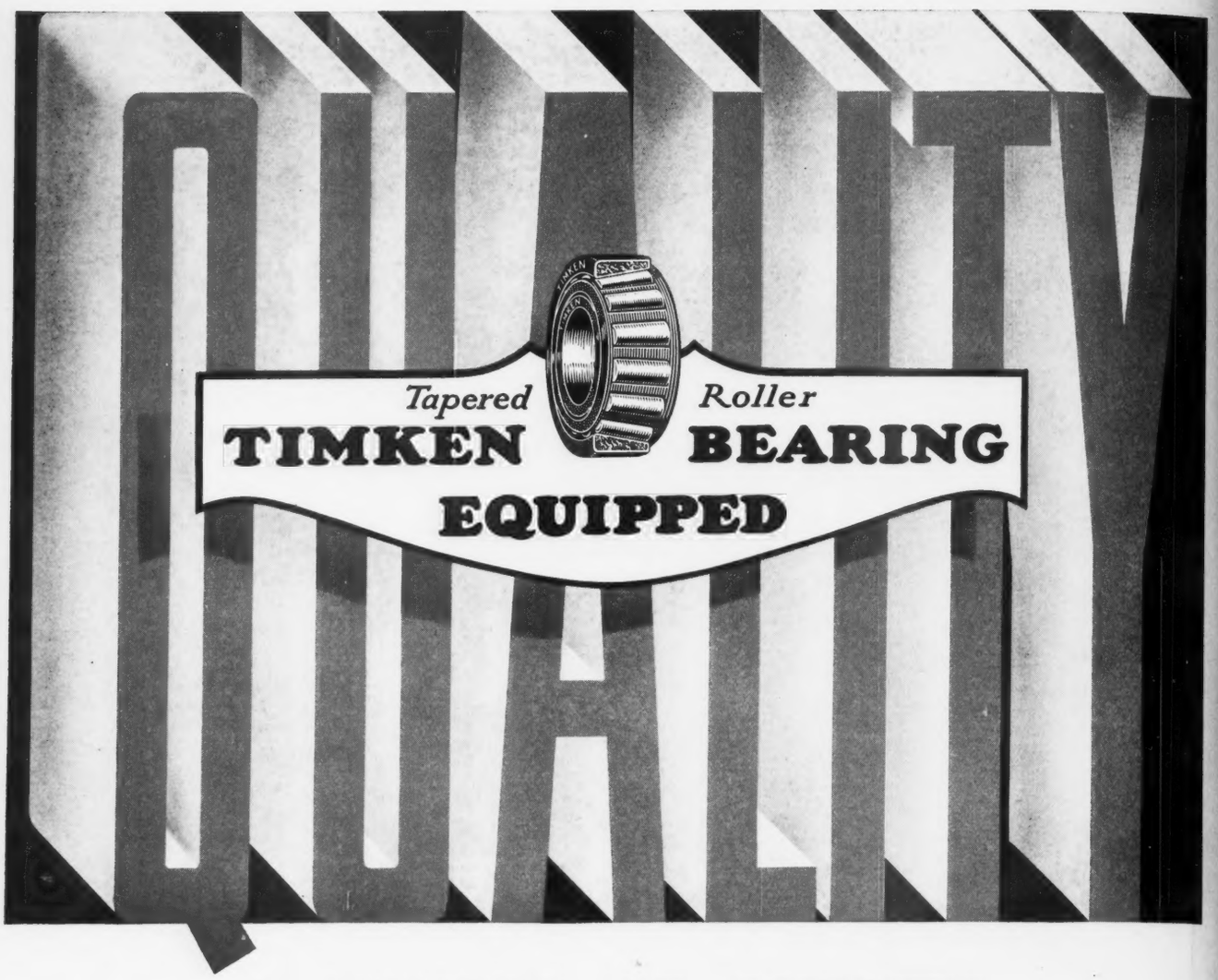
Leading newspapers are enjoying the advantages of this new type of roller. Its superiority over the formerly popular rubber roller is unquestioned.

May we suggest that you get in touch with a representative of this company to ascertain the facts?

Sales and service representatives located in principal cities

IDEAL ROLLER & MFG. CO.

CHICAGO · · NEW YORK



A SYMBOL OF QUALITY

FOR ANY PIECE OF PRINTING EQUIPMENT WITH WHICH IT IS ASSOCIATED

When a manufacturer thinks enough of his equipment to give it the advantages of Timken Bearings, it can be taken for granted that the product possesses outstanding merit. That is why it pays to look for Timken Bearings — and the Timken Bearing Equipped symbol—when buying any kind of industrial equipment.

Timken Bearings are used in leading makes of printing presses — both letterpress and offset—to eliminate friction and wear; to carry radial, thrust and combined loads; and to hold moving parts in correct and constant alignment.

In doing so they assure higher speeds; greater precision; increased dependability; decreased operating and maintenance costs and extended equipment life.

The equipment buyer has a wider range of choice now than ever before — but he cannot go wrong with "Timken Bearing Equipped" as his guide.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN *TAPERED ROLLER* BEARINGS

THE HAS ALWAYS BEEN

The ink of the THREE TIME WI

The ink of the TWO TIME WINN

The ink of the ONE TIME WINN

The ink used by MORE PLACE WI

Such consistency of perform

EN WON WITH HUBER INKS

E WINNER and PERMANENT HOLDER

★★★ *N. Y. Herald-Tribune*

WINNER ★★ *New York Times*

WINNER ★ *Hartford Courant*

E WINNERS *than any other ink made!*

formance evidences the superior quality of

HUBER INKS

PAGE 7TH Friday Evening, THE MINNEAPOLIS JOURNAL April 24, 1936
Kentbridge & Rothkirk suits
Alpacuma & Valgora topcoats
$35
Super-tex worsted suits
and new spring topcoats
$29.50
Famous Stewart McCray new spring suits & topcoats
—a style and quality sensation in our Value Basement
$18.50
$18.50
MAURICE L. ROTHSCHILD

Miniature reproduction of run-of-paper two-color-and-black page appearing in The Minneapolis Journal *recently. Mechanical Superintendent H. L. Foster states the color separation negatives were made direct from the coat goods pattern. The fabric was printed in light brown and was shot through with coarse bright red threads. Balance of the advertisement, including signature, was printed in black ink. The original is one of the most effective and realistic newspaper color pages which has come to the notice of* Printing Equipment Engineer.

Color

In Cleveland News Used Freely—Portable Fountain Great Aid

By W. V. Cowgill*

NEWSPAPERS are peculiarly susceptible to reader interest and most sensitive to advertisers' demands. So general and widespread became interest in color as hesitantly and diffidently used, either in the news columns or displayed by some pioneering advertiser during the past several years, that newspapers everywhere began experimenting with color on presses that were designed and built with no thought of color. Crudities and difficulties became obvious though some good examples of color production were produced in many plants.

The Cleveland *News* recognized the color tendency and the problems entailed, and early in 1933 began the development of auxiliary ink fountains to simplify application of color to pages of daily editions with existing black-and-white presses.

What has been done in this plant on that problem is now a matter of newspaper history, and was quite thoroughly covered in *Printing* Equipment *Engineer* for November, 1933.

As color advertisements and pages were produced many problems arose, some due to conflicting dates or positions of advertisements and on other occasions because the advertiser demanded multiple color. Usually, we have been able to satisfy both demands because of the flexibility of the Morrison-Spicer auxiliary fountain.

The use of newspaper color by advertisers in The Cleveland *News* has been developed to the point where at the present time we are printing several newspaper color advertisements per week. During 1936 and up to the present time (the latter part of April), The *News* has printed approximately fifty color advertisements in its regular daily editions. During the week of April 20, five one-color-and-black advertisements were printed, in addition to a page which was printed with two colors and black ink. Not all of the color advertisements, however, have consisted of full-page space, some of them being quarter-page size.

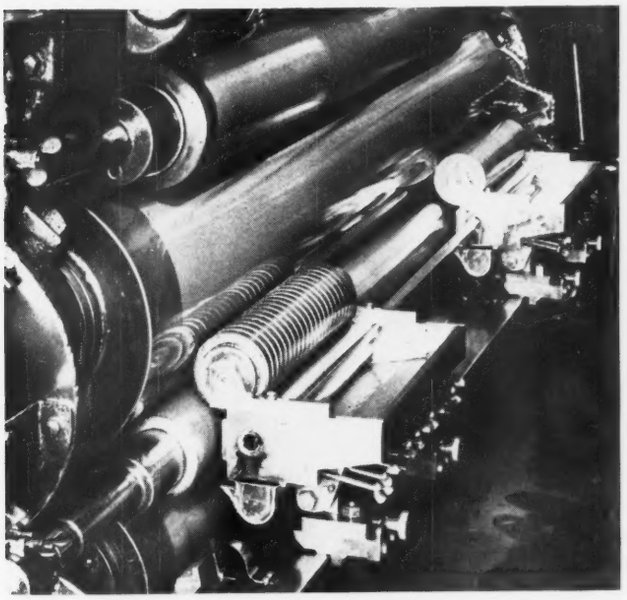
We have an advertising promotion department that handles all original copy and designs and which develops color schemes for advertisers. The promotion department will start with only the idea and design and submit the finished art copy to the advertiser. Almost all color advertisements from local advertisers are originated in our own department, sketch submitted advertiser and OK copy then developed and plates made in our photoengraving department.

In preparing copy for color advertisements, our organization always keeps in mind that those plants not originally equipped for run-of-paper color should strive to produce simple and attractive color effects. We try to avoid preparing copy calling for extremely close registration and we discourage the heavy overprinting of two or more colors, especially where there is no excuse for massed spots since the layout man can obtain equivalent effects with black ink in one impression. Vari-color effects, however, are obtained by "overprinting" halftone areas such as black on yellow, red on yellow with black outline and so on.

Problems arise occasionally in the making of color plates. Working on the theory that an electro is an electro and a mat is a mat and that both represent a portion of his advetrisement, the advertiser fails to comprehend that such mixed reproductive material doesn't lend itself any too well in the matter of obtaining good results in newspaper color advertising. Sometimes our ingenuity is tested to the fullest extent by the necessity for registering illustrations in plates which are supposed to be reproduced from an electrotype and a mat in the same advertisement, or in another instance where we produce fairly good register from an electro and a zinc etching.

All of our departmental executives are interested in color, not alone from the variation from regular black-

*Mechanical Superintendent The Cleveland *News*.



View of two Morrison-Spicer portable color ink fountains connected in tandem to the ink rail of a newspaper printing press unit in the plant of The Cleveland News. *Each of the fountains is supplying ink of a different color simultaneously. The fountain distributing rollers have been adjusted by means of the knurled-head screws in the sliding base of the fountain to have extremely light contact with the ink drum. The grooves in the fountain distributing roller have been cut spiral fashion to assist in distributing the ink smoothly. At the far end of the press unit may be seen the sprocket chain which drives both portable fountains, a square driving rod extending from the driven fountain to the one at this side of the drum. The fountain distributing roller contacts the ink drum but does not touch the intermediate roller. Each of the fountains holds 10 lbs. or slightly more than 1 gal. of ink, which is replenished after about 20,000 impressions.*

and-white technique, but because of the team work involved.

The *News* can accept fractional page color space, as well as the full-page space profitably because of the method used for printing color in our plant. Through the development of the Morrison-Spicer portable color fountain it is possible for the pressroom superintendent to have a press crew plate the unit and apply and adjust one of the portable color fountains so as to be ready to run in twenty minutes time.

It will be seen that the Morrison-Spicer 35-lb. color fountain in use in our plant make possible the quick preparation of a unit for color printing. It is not necessary to wash out the ink rail which is a somewhat messy and involved task. Considerably more time is required to prepare the press for use of the regular ink-distributing equipment.

We have had occasion to print advertisements carrying two colors on the same impression cylinder but on the pages printing at the outside ends of the cylinder as shown in the illustration. For this purpose two fountains are clamped to the ink rail and both are driven by the same device. The source of power is obtained from a sprocket chain connection running from one of the fountains to a sprocket gear fastened to the vibrator cam operating gear stud. A square driving rod of suitable length runs from a socket in the driven fountain ductor roller which supplies ink for one color to a socket in the ductor roller of the fountain which supplies ink for the other color. The fountains each carry sufficient ink, as a rule, for the printing of 20,000 copies. Fountains are so accessible it is a simple matter to refill at any time during the run. During the edition run where two fountains are connected to the same cylinder the ink drum is occasionally wiped between the blank sections of each roller (inside the page limits) to prevent the two colors of ink from lapping or blending. We get no fade-out in color, due to the fact that we have continuous feed from the fountains.

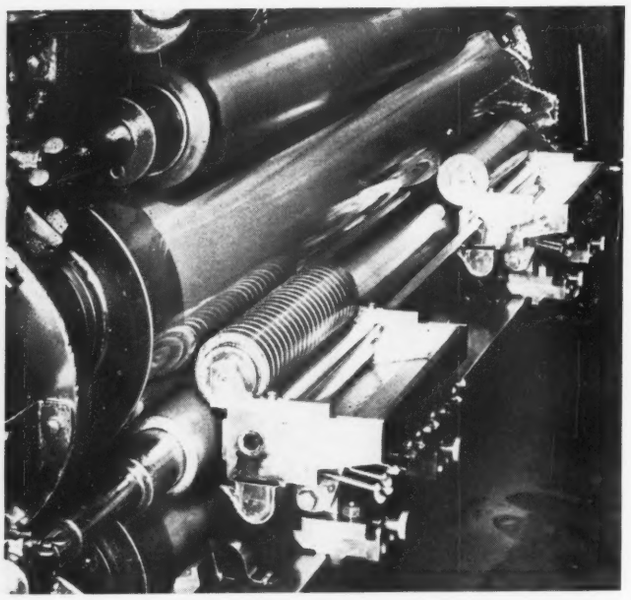
Wins Trophy Second Time

The many friends of Kenneth L. Gregg, production manager of the San Diego (Calif.) *Union-Tribune*, and his executive staff, will be pleased to know that for the second consecutive year, the Sperry Flour Company trophy has been awarded to the San Diego *Union* by the judging committee of the Westco Advertising Agency, the latter part of April. The trophy was awarded for consistent excellence in reproducing color advertisements of the Sperry Flour Company which appeared in the San Diego *Union*.

With the trophy came a Soda King Self-Carbonator offered as a special prize and which was presented to "the person most responsible" for the good work done in a series of advertisements comprising part of the year's production on which the main award was based. This was presented to Mr. Gregg.

The trophy and special prize were accompanied by a letter to Morris Penter, advertising director of the *Union* and *Tribune* from the Westco agency.

Morris A. Penter, advertising director of The San Diego Union *and Evening* Tribune, *presents a Soda King Self-Carbonator awarded to Kenneth L. Gregg, production manager, as the "person most responsible" for The* Union's *winning the trophy for consistent excellence in color advertisements. Present are, left to right: William T. Schneider, superintendent of the stereotyping department; Gregg, Penter, Matt Spratt, color press foreman and Harry Lindsey, in charge of color stereotyping.*



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and-white technique, but because of the team work involved.

The *News* can accept fractional page color space, as well as the full-page space profitably because of the method used for printing color in our plant. Through the development of the Morrison-Spicer portable color fountain it is possible for the pressroom superintendent to have a press crew plate the unit and apply and adjust one of the portable color fountains so as to be ready to run in twenty minutes time.

It will be seen that the Morrison-Spicer 35-lb. color fountain in use in our plant make possible the quick preparation of a unit for color printing. It is not necessary to wash out the ink rail which is a somewhat messy and involved task. Considerably more time is required to prepare the press for use of the regular ink-distributing equipment.

We have had occasion to print advertisements carrying two colors on the same impression cylinder but on the pages printing at the outside ends of the cylinder as shown in the illustration. For this purpose two fountains are clamped to the ink rail and both are driven by the same device. The source of power is obtained from a sprocket chain connection running from one of the fountains to a sprocket gear fastened to the vibrator cam operating gear stud. A square driving rod of suitable length runs from a socket in the driven fountain ductor roller which supplies ink for one color to a socket in the ductor roller of the fountain which supplies ink for the other color. The fountains each carry sufficient ink, as a rule, for the printing of 20,000 copies. Fountains are so accessible it is a simple matter to refill at any time during the run. During the edition run where two fountains are connected to the same cylinder the ink drum is occasionally wiped between the blank sections of each roller (inside the page limits) to prevent the two colors of ink from lapping or blending. We get no fade-out in color, due to the fact that we have continuous feed from the fountains.

Wins Trophy Second Time

The many friends of Kenneth L. Gregg, production manager of the San Diego (Calif.) *Union-Tribune*, and his executive staff, will be pleased to know that for the second consecutive year, the Sperry Flour Company trophy has been awarded to the San Diego *Union* by the judging committee of the Westco Advertising Agency, the latter part of April. The trophy was awarded for consistent excellence in reproducing color advertisements of the Sperry Flour Company which appeared in the San Diego *Union*.

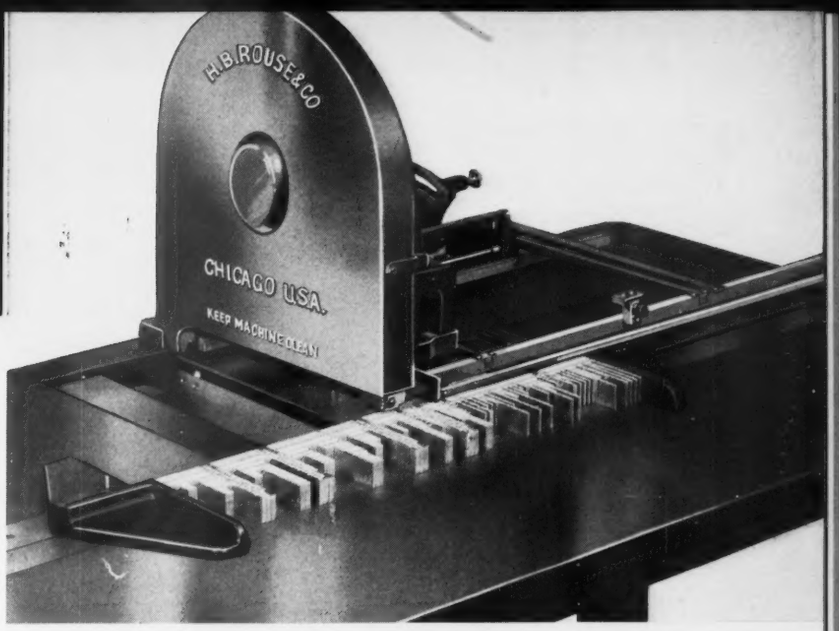
With the trophy came a Soda King Self-Carbonator offered as a special prize and which was presented to "the person most responsible" for the good work done in a series of advertisements comprising part of the year's production on which the main award was based. This was presented to Mr. Gregg.

The trophy and special prize were accompanied by a letter to Morris Penter, advertising director of the *Union* and *Tribune* from the Westco agency.

Morris A. Penter, advertising director of The San Diego Union *and Evening* Tribune, *presents a Soda King Self-Carbonator awarded to Kenneth L. Gregg, production manager, as the "person most responsible" for The* Union's *winning the trophy for consistent excellence in color advertisements. Present are, left to right: William T. Schneider, superintendent of the stereotyping department; Gregg, Penter, Matt Spratt, color press foreman and Harry Lindsey, in charge of color stereotyping.*

Multiply Production with these *Rouse* TIME SAVERS

All Rouse composing room equipment is designed for speeding up production without sacrifice of quality or accuracy. The Rouse Band Saw and the Rouse Cabinet Model Vertical Rotary Miterer are only two of the many Rouse Time Saving Devices. Write for a complete list.



Saw a Full Galley of Slugs in 35 Seconds

One measure or a hundred different lengths — it is easy with the ROUSE BAND SAW.

Slugs are placed on the table of the ROUSE BAND SAW. A single movement of an aligning bar positions them, automatically selecting the variable lengths. A click of a switch, and the slugs self-feed to the band saw. When the cut is completed the saw stops.

The secret of ROUSE BAND SAW selectivity lies in a slug length indicator about the size of a period which is a part of each slug cast. A patented ROUSE vise jaw serves as its mold. It replaces the regular left hand jaw.

There is no extra operation — no reduction of speed in setting type — and no delayed slug delivery. The ROUSE BAND SAW is easy to install and operate. It is essentially high speed equipment, which has proved itself for accuracy and economy.

Cut 1000 Miters an Hour

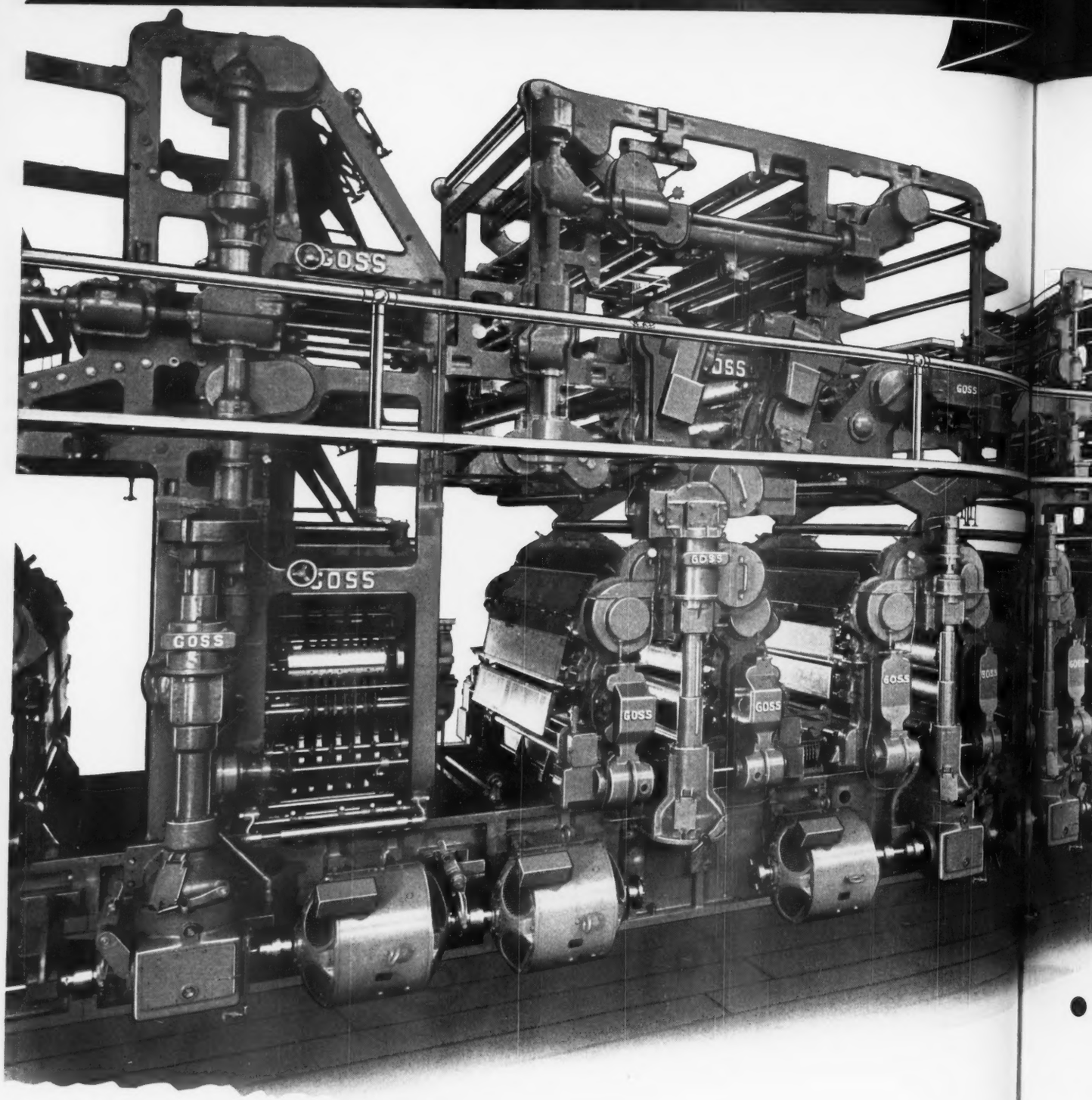
When there is a deadline to meet, in ad or job composition, the New Rouse Vertical Rotary Miterer gives the high speed reserve capacity that results in profitable production and **on-time** delivery.

Where there is a demand for miters in quantity, there is no other method that approaches the production of the Rouse Vertical Rotary Miterer in accuracy, and in the number of pieces which may be produced direct from single strips within a definite time limit.

The New Rouse Cabinet Model Vertical Rotary Miterer (illustrated at the left) has been developed to save steps for the operator — to bring within arm's reach all the necessary strip material most frequently used.

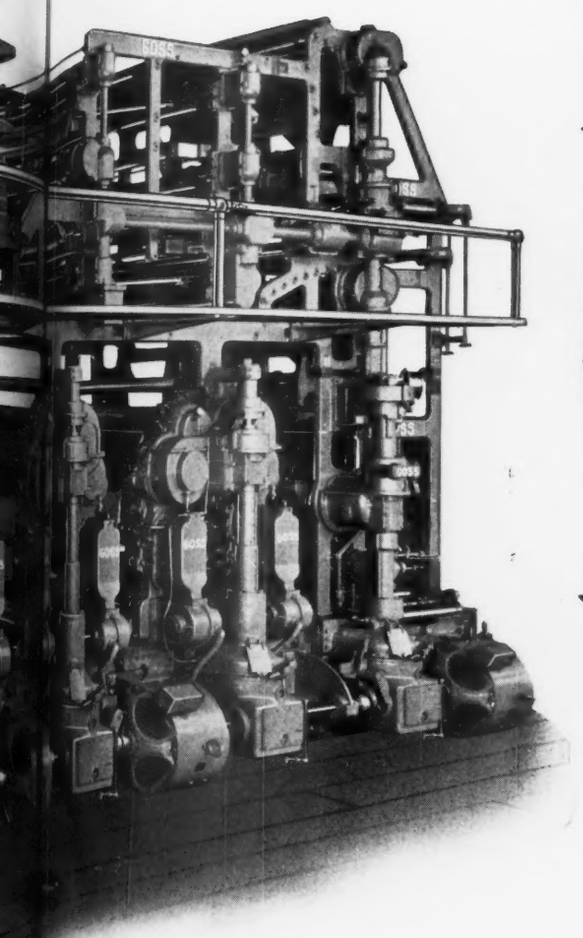
The Rouse Vertical Rotary Miterer actually does the work of hours, in minutes. It is a distinctly modern machine, essential in any composing room where there is a claim for efficient production. It is paying equipment for any plant where on an average of 10 boxes a day are mitered. Write for prices and illustrated circular. Or see latest Rouse equipment in operation at the A. N. P. A. Mechanical Conference, Palmer House, Chicago.

H. B. ROUSE & COMPANY
2216 Ward Street, Chicago, Illinois



GOSS

Goss Presses are the Only Ones at the Tribune Plant equipped to run Color.



38 UNITS

8 COLOR ATTACHMENTS
8 PAIRS OF FOLDERS

THE WORLD'S FASTEST, LARGEST PRESS FOR HANDLING R.O.P. COLOR

● You've seen the magnificent run-of-paper color work appearing in the Chicago Tribune. Now, you can see the latest equipment for producing it.

The installation of this huge Goss High Speed Anti-Friction Press with complete color attachments and reverse delivery folders is nearing completion. Mechanical superintendents can inspect it at the Tribune plant when they attend the A. N. P. A. Mechanical Conference in Chicago.

At the same time, they can see the Goss Gravure Press and the Goss Multi-Color Press that print all the Tribune's color-gravure, comics, and magazine sections at high sustained speed.

The position of the Chicago Tribune in the promotion of color, the recognized quality of the work produced, the size of the plant, and the advanced design of all equipment used, make this an opportune occasion for mechanical superintendents to get first-hand information and compare notes on color printing.

● **You are cordially invited, when in Chicago, to visit the Goss plant and see many types of press equipment being constructed or erected for prominent publishers all over the world.**

THE GOSS PRINTING PRESS COMPANY

PILSEN STATION, CHICAGO, ILLINOIS

NEW YORK:
220 E. FORTY-SECOND ST.

SAN FRANCISCO:
707 CALL BUILDING

GOSS FOSTER, LTD.,
LONDON, ENGLAND

Pumping water from the pressroom of the Pittsburgh Press *at the time of the flood during the latter part of March. At one time eight fire pumpers were at work. The fire pumping equipment was secured from volunteer fire departments in nearby townships and burroughs.*

Flood

Rehabilitation Work Described By Three in Flood Area

By HOWARD S. LADD*

At the time of the flood during the latter part of March, our stereotype department was flooded with about 30 ft. of water. Our power plant and press drives were completely submerged. The water rose to a height of 3 ft. in the pressroom which meant that the first impressions were covered.

We used a Diesel engine to pump out the water. With this equipment we pumped out the water from the entire block as our lowest floor levels were 10 ft. lower than any other floors in the block.

During the emergency we secured an 80 h.p. gas engine with a.c. generator attached and set it up in an alley to furnish light. As soon as we could make arrangements, a motor generator set was secured and hooked up to furnish enough d.c. current to operate the equipment in the composing room.

All of the small motors which were submerged in the water were sent out to be baked. We baked the large motors, transformers and rotary converters in the plant. This was accomplished by putting electric heaters under the rotary converters and the large motor drives. Large tarpaulins were put over them, the heat was brought up to 180 deg. and left that way for two days. We then attached a small motor to each of the large drives and turned them over at a rate of about 500 r.p.m. until an instrument designed for the purpose showed them to be thoroughly dry. In the case of the transformers, heaters were placed inside and the current was shorted through them. Upon testing the four transformers, we found them to be all right for service again.

The stereotype plant and presses were gone over thoroughly. All bearings were taken out and cleaned and new oil supplied. The main bearings in the presses were all taken down, cleaned and lubricated. We lost only a few rollers and blankets.

*Mechanical Superintendent, the *Post-Gazette*, Pittsburgh, Pa.

By GORDON MONTGOMERY*

From now on, you'll probably find Pittsburghers who once talked about "my operation" busily engaged in reciting what happened "during the flood."

Warned by the flood of 1907, we built our plant well above high-water level of that year and provided a flood wall which gives three feet additional protection. But experience was a poor teacher to us and to scores of great industrial and utility companies in the area.

At 11 P. M. on Tuesday, March 17th, the water reached factory floor level; three hours later it was over the flood wall; and by 4 P. M. Wednesday we had nine feet of water in our factory and fifteen feet in the foundry.

In the midst of the excited activity within our own walls, we suddenly realized that sixteen feet of water had trapped a great many people in the houses which line the street opposite us. In forty-five minutes our men built a nine-passenger boat and launched it in the street. In the next couple of hours the "Salvator The First" (someone had found time to paint a name on the life-saving craft) carried at least 150 men, women and children to safety.

We are mighty proud of our men. Not only for what they did during the high water but for the way they have worked since. Cleaning up has been largely a matter of muscle and sweat—and loyalty to the job. No permanent damage was done, but a tremendous amount of digging, hauling, scraping and washing was required to make the plant ship-shape again. If you could have seen the horrible mess on Thursday, the 19th, you would realize we faced what looked like a month's task. It was completed in a week. On the 27th, power was restored to our lines and Miller went into production again.

*Sales Manager, Miller Printing Machinery Company, Pittsburgh, Pa.

By HOWARD J. LAMADE*

Owing to the peculiar residue left in our printing press ball and roller bearings after the flood waters had subsided this spring, it may be of interest to mechanical executives to know how we placed them in normal condition.

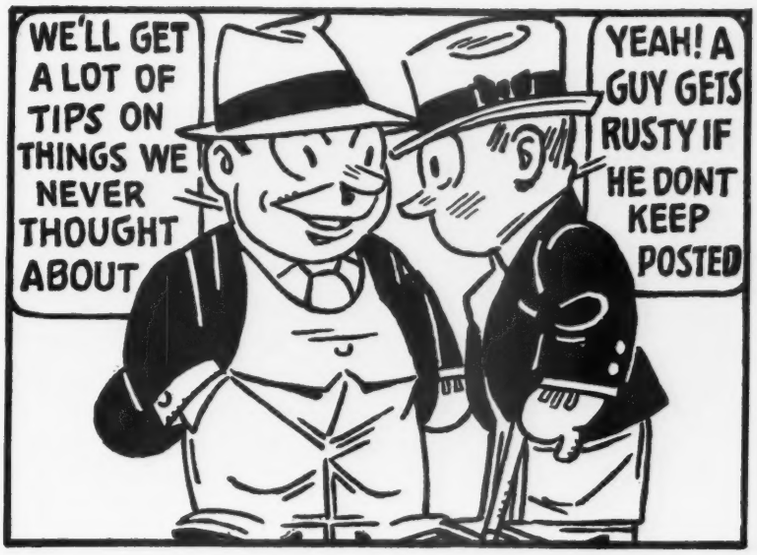
Our press, being only a year old, is completely fitted with frictionless bearings throughout, the only bronze bearings being where the shafts of the vibrating ink drums go through the frames of the press. Immediately after the water receded, it was necessary for us to operate the press on account of our editions, and we were able to move off with very little preparatory work. We found, however, after a week or two, that water had leaked into the various frictionless bearings, had formed an emulsion from agitation with the grease and had left behind almost everything which had no lubricating value.

It was necessary for us to spend three weeks tearing the press apart from the top down, cleaning the mountings for these bearings and re-assembling the press. This was done as we could spare a unit at a time and carried with it considerable expense which in the beginning we had not estimated.

*Business Manager, The *Grit* Publishing Co., Williamsport, Pa.

BURGESS CHROME MATS

BURGESS CHROME MATS



DURING the A. N. P. A. Mechanical Convention at Chicago be sure to come to the Burgess suite at the Palmer House, Suite 1569. We'll be glad to go into your problems and discuss them with you.

D.T. STEPHENSON, Secretary in charge of Sales

JOHN KEARNS
Northeastern District

LOUIS F. LAHL
Central District

MARION G. MORGAN
Southwestern District

HENRY MESSINA
Northwestern District

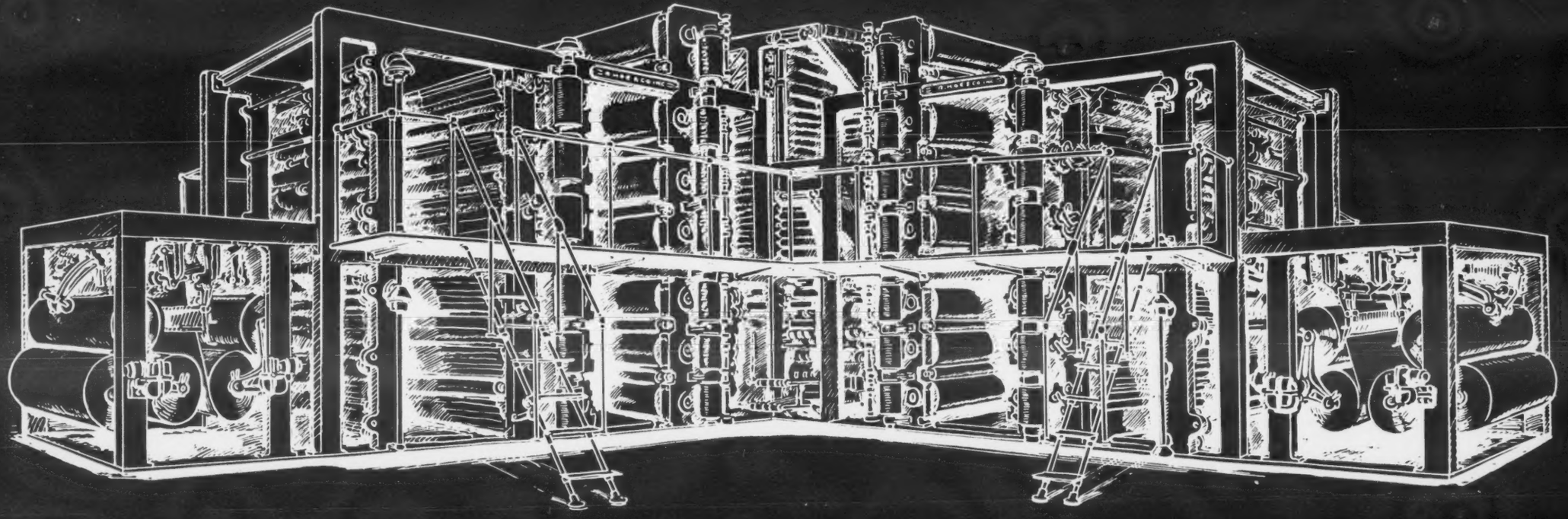
WALTER D. HITCH
Southeastern District

BURGESS CELLULOSE COMPANY
FREEPORT, ILLINOIS

BURGESS CHROME MATS
BURGESS CHROME MATS
BURGESS CHROME MATS

The World's..Largest..Fastest..Most Modern

BUILT BY HOE



The symmetry and operating convenience of this huge press may be seen from this artist's conception of the finished machine.

36 UNIT

26 UNIT
Super-Production Multi-Color Newspaper Press
for the CLEVELAND PLAIN DEALER

After a very thorough investigation, the Cleveland Plain Dealer entrusted to Hoe the design and construction of this press . . . the largest, fastest and most modern. As a result of Hoe's extensive research and broad experience, resulting from the design and development of a large majority of existing high-grade newspaper, color and magazine printing presses, they gain:

HIGH SPEED. This press is designed primarily for the continuous, simultaneous production of a 16-page four-color comic section and a 16-page magazine with a large number of the pages in color, at the remarkable running speed of 40,000 complete and well-printed comic sections and magazines per hour. Solid forged steel cylinders, anti-friction bearings, positive impression adjustment, heavy rigid construction, and many other exclusive Hoe features are incorporated to make this speed possible without sacrifice of printing quality.

PRINTING REGISTER IS MAINTAINED by the close-coupled cylinders, the positively positioned sliding compensators, the feeding-in rollers and the automatically constant tension.

COLOR AND ITS TONES ARE CONTROLLED by the Hoe incomparable ink distributing system, with large size ball bearing form rollers, desynchronized distributing cylinders with crank shaft drive, new Hoe color fountains and the necessary intermediary ink rollers, all mounted in movable carriages. Deflection of the form rollers is prevented by a Hoe special design. Adjustment of these rollers either against the plate or ink cylinder is obtained without disturbing the other setting.

MAKE READY AND REGISTERING TIME IS GREATLY REDUCED by an ingenious clip arrangement to quickly and accurately register the plates and by the ability to "move up" each individual printing unit without reference to the others, permitting pressmen to work simultaneously on the various parts of the press without waiting for one another. Thus costly unproductive idle hours are turned into revenue producing printing hours. Progressive color proofs can be obtained due to the arrangement for selectively silencing the various printing units with their respective ink distributing systems and throwing off any desired impression.

CONTINUOUS, UNINTERRUPTED PRODUCTION is maintained by Hoe Full-Speed Pasters, Hoe three-arm Reels, and Hoe Electric Automatic Tensions. Wasted hours for roll changes and slow-downs are eliminated, and slow motion copies saved.

TO MAINTAIN BETTER REGISTER in the plates themselves, the Cleveland Plain Dealer has ordered from Hoe a complete line of Hoe precision curved stereotype equipment. Experience has demonstrated that with this advanced machinery, a more accurate, solid, better printing plate is obtained without distortion of the design.

YOU, TOO, CAN SOLVE YOUR PRESS PROBLEMS . . . BY CONSULTING HOE

R. HOE & Co., Inc.

• General Offices •
910 East 138th Street
(at East River)
• New York City •

BOSTON SAN FRANCISCO CHICAGO

Air Cooling

Of Intertype and Linotype Molds Helps Greatly With Slug Solidity

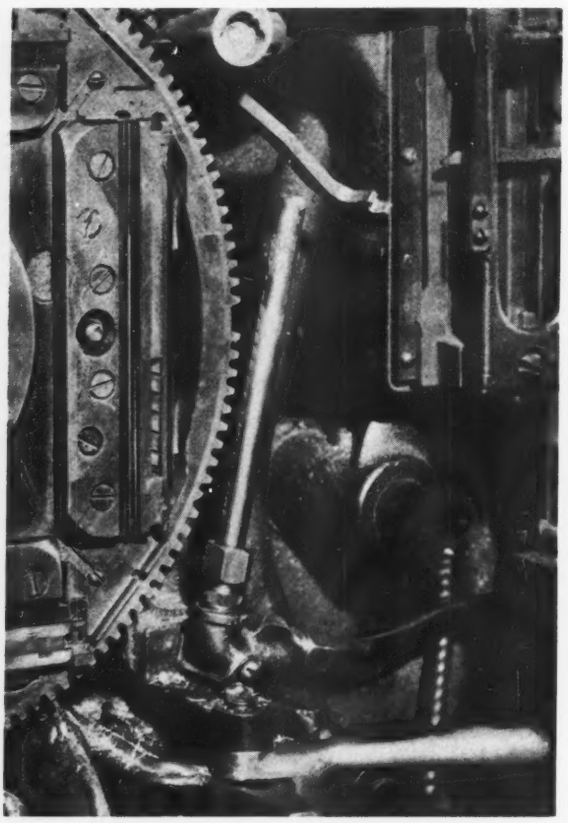
By Staff Writer

COMPRESSED air for cooling line-casting machine molds has been the subject of considerable study by composing machine engineers for some time. Isolated efforts in this direction have been reported occasionally. Usually, these reports emanated from large composing rooms where compressed air was available from a continuously-operated plant compressor installed for other purposes and the composing room machinist took advantage of the circumstances to divert part of that air supply for mold-cooling purposes. In these cases, the machinist fitted a more or less permanent air duct to spray the mold with a pipe nozzle inserted in the end of a rubber hose attached to an overhead pipe line. In other plants operating Monotype equipment, more or less efficient air jets for line-casting machine mold cooling have been supplied to deliver air under pressure to the mold. In these instances (if not already provided) it has been necessary to attach a moisture separator to insure the delivery of dry air to the mold.

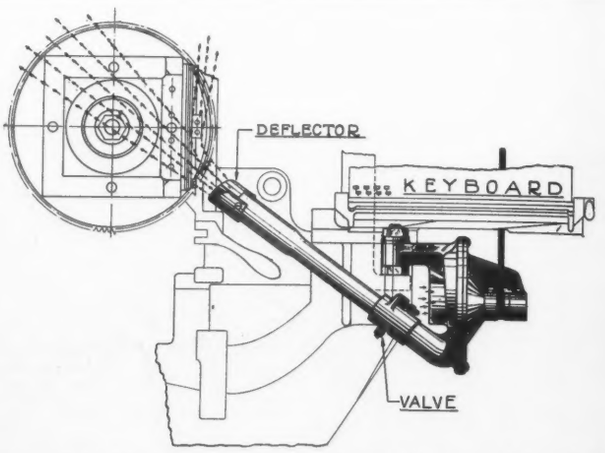
The idea behind air cooling of line-casting molds is to drive off residual heat set up by continuous casting, principally on those sizes of slugs from 10-pt. up. On many book and ad machines, 30-em molds are used constantly regardless of the measure width. Most of the time the operator is casting short-measure composition on a 30-em slug. Naturally, he is casting short measure at a more rapid rate than would be the case were he to work on wide measure continuously.

The casting of narrow-measure 30-em slugs at a rate faster than the operator could normally compose 30-em composition overheats the mold so that the metal does not solidify as rapidly as it should. The result is that the slugs have a honey-combed structure.

In the case of 10, 12 and 14-pt. composition, mold cooling is a desirable thing even with recessed mold caps. The important consideration in cooling a mold by air spray is that it helps to dissipate air bells in the slug structure well down into the slug body so as to avoid any weakness directly under the letter characters. A further important benefit in air cooling of molds is that the warping of bodies and caps is minimized.



This illustration shows a blower tube of the mold cooling system devised by John Pecook, chief composing room machinist at the Cleveland News, *for the battery of Linotypes in The* News *plant. Air is delivered by overhead piping system and through copper tubing to each blower tube from a central source of supply. Composing Room Superintendent Buttermore states that the solidity of slugs has been increased from 30% to 40% on the machines to which the mold cooling device has been applied.*
The copper tubing air conduit is brought from the rear and through the lower part of the machine column. Two brass ell fittings and a nipple are used to secure the vertical position of the blower tube. A steel U-shaped piece fastened under the head of the controlling lever bracket upper screw holds the blower tube securely in position.



Diagrammatic front view of Intertype mold cooling blower attached to column flange of an Intertype. The horizontal arrows show where the air is drawn into the snail shell by the impeller vanes. The manner in which the compressed air is expelled from the blower tube is indicated by the arrows in front of the mold disk.

As has been stated above, all of the experimentation with respect to the air cooling of line-casting machine molds has occurred in printing plants where compressed air is available continuously. More plants, however, are not equipped with compressed air supply than those who do have it. Now, individual blower attachments are available for application to Linotype and Intertype machines so that any machine in any composing room may be supplied with a mold-cooling unit.

Intertype Mold Cooling

A few years ago, Intertype Corporation introduced the first unit type mold cooling device which consisted of a Leiman pumping unit driven from a pulley on the intermediate shaft. A pipe line was conducted from the pump through the machine column and alongside the mold slide where it terminated at a point above the mold when the latter rested at normal position. An oil trap filled with mineral wool was suspended on the pipe line within the machine column. A short time ago, however, Intertype Corporation developed another blower of snail shell design with vanes cast integrally

(*Continued on Page 107*)

TINGUE

TRADE MARK

PRESS BLANKETS

Keep Your Presses Productive! Save Make Ready Time!

TINGUE on Press Blankets guarantees Superior Printing Qualities

"Let's Look At The Record"

with apologies to Mr. Al. Smith

4th quarter 1934

59 Accounts

1st quarter 1935

130 Active Accounts

4th quarter 1935

301 Active and Satisfied Accounts

1st quarter 1936

422 HAPPY CUSTOMERS

Thank You!

FELT
PRINTING BLANKET

Cushion Cork
PRINTING BLANKET
Registered U.S. Patent Office

FOUNDATION
PRINTING BLANKET
PATENT APPLIED FOR
Laminated by Du Pont with "DU PRENE"
Registered U.S. Patent Office

Satisfaction
DRAWSHEET
FOR PRINTING PRESSES
Coating by DU PONT with "DU PRENE"
Registered U.S. Patent Office

TINGUE, BROWN & CO.

118-120 East 25th Street
NEW YORK, N.Y.

1227 Wabash Avenue
CHICAGO, ILL.

Rollers

Improvement Reflected in Demand Caused By Higher Printing Speeds

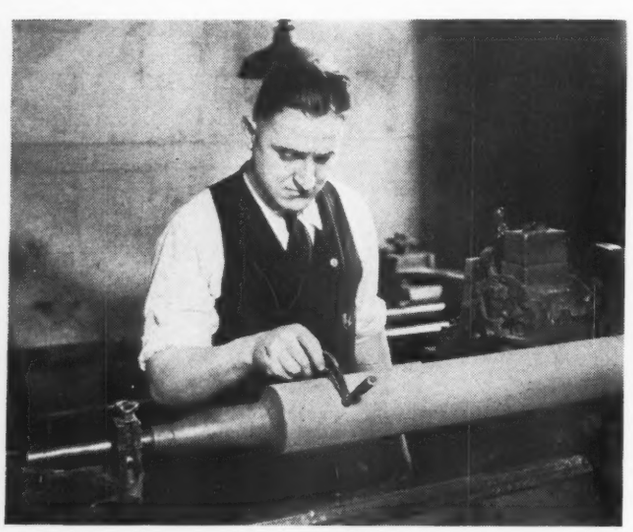
By Staff Writer

OPERATION of modern high-speed presses would not be possible had not the art of roller making kept pace with developments in press building. In the days of the wine-press style of printing press, when the forms were inked by means of buckskin balls stuffed with horsehair, two to three hundred impressions, we are told, was a day's work. As time went on, the discovery and the development of the glue and molasses roller made possible (in not too hot or humid weather) the operation of the platen and early-style cylinder presses, where production held somewhere around a thousand copies per hour. Later came the development of small job cylinders capable of producing 3000 to 5000 impressions per hour and web presses speeded to produce hourly 30,000 impressions or more. These developments constituted a challenge to the roller manufacturers for rollers that would stand up under the friction generated by such speeds and at the same time perform acceptably upon many types of printing plates. The challenge has been met by more extensive and intensive research work.

The accompanying paragraphs describing in part the manufacture and the uses of some of the later types of rollers should prove of interest alike to mechanical executives and pressmen.

Non-Meltable Composition

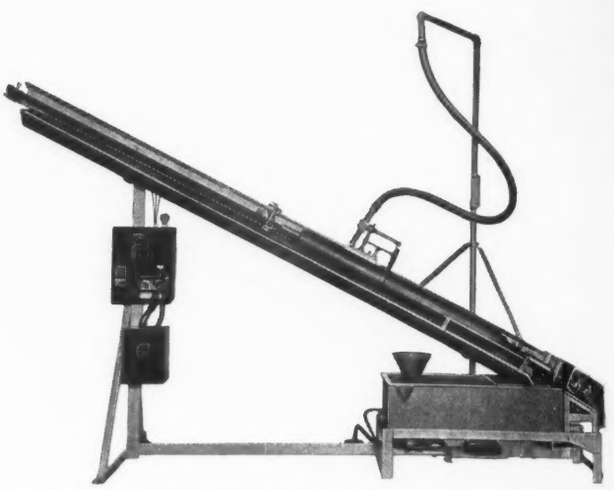
This roller has the appearance of a regular composition roller, but it is different in two major respects: First, it has been chemically treated with a special tanning agent to render it non-meltable under all normal pressroom conditions; second, it is made of new materials.



Testing Goodrich Rubber Printing Rollers. This particular test is one of many tests and is made immediately following the final grinding operation to check for accuracy of surface dimension.

This type of roller is suitable for all high-speed presses and for pressrooms located in warm climates or hot, humid localities. It can be used in all positions on any letter press.

While this roller will not melt or become excessively soft, it is said to be subject to slight shrinkage and expansion, due to climatic changes, the same as any gelatin composition roller.



Ideal Process Roller Automatic Surfacing Machine. This machine is used to apply a new gelatine composition surface to the rubber base. The old gelatine coating is removed from the rubber by washing it off with warm water. The rubber base will last indefinitely.

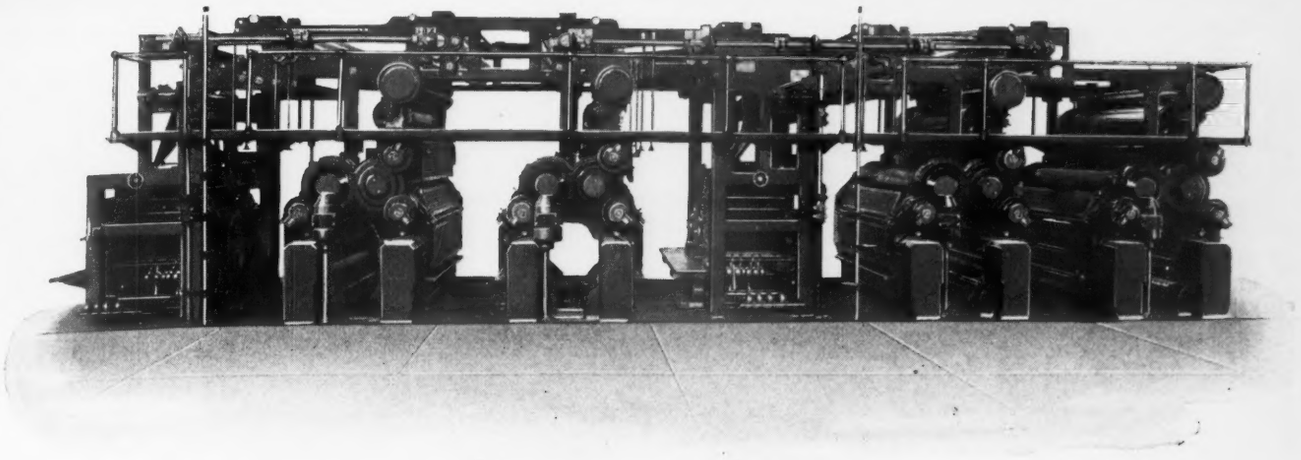
On the other hand, a composition roller will melt sometimes as the result of too high running speeds or to improper adjustment. Under these conditions a composition roller melts from the inside out because the flexing of the roller generates heat next to the metal stock which cannot escape and, therefore, accumulates until melting results.

It has required years of research and experimentation by leading roller manufacturers to produce satisfactory non-meltable composition rollers. The early difficulty was that in rendering these rollers non-meltable they lost much of their pliability and were subject to early checking or cracking and loss of "tack" or stickiness. While this is still noticeable when certain kinds of inks are used, non-meltable composition rollers can be used with economy upon the great majority of modern high-speed presses. The proper adjustment of rollers is an important consideration. A pressman can ruin any kind of roller in a short time by setting it down too hard. In this event the roller should not be blamed for unsatisfactory performance.

Both meltable and non-meltable composition rollers are made by flowing molten composition into a very smooth steel or brass mold so as to cover a metal roller core previously centered in the mold. The material is forced into the mold from the bottom by pressure to eliminate the possibility of air cells. The mold is cooled and the roller may then be withdrawn. Trimming and inspection complete the major operations. All composition rollers should be aged at least ten days before using to insure proper running life.

The chief ingredients used for the making of non-meltable composition rollers are as follows:

Glue—A high-grade hide glue is used to give strength and body. (*Continued on Page 70*)



Scott "Extra Hi-Speed" Straight Unit Press
The illustration shows a 4 Unit Press with two pairs of Folders and with an extra color plate cylinder on every Unit

Press Performance Depends on Sound Engineering

The modern Newspaper Press performs a variety of operations at high speed under high pressure and must function regularly without mechanical interruption. To properly meet these conditions a thorough dependability of every detail operation is essential.

This requires first of all a sound Basic Design for each component: Printing Unit, Folder, Paper Feed and Web Control. Also, that each component shall be fully developed by the construction and use of many machines over long periods of time, which alone can search out and eliminate deficiencies.

Scott Basic Design of Components has proven by the test of use and time to represent the best practical construction. Each detail has been intensively developed and improved. Scott Presses have behind them the longest experience in Unit Presses concentrated on fundamentally sound design and engineering.

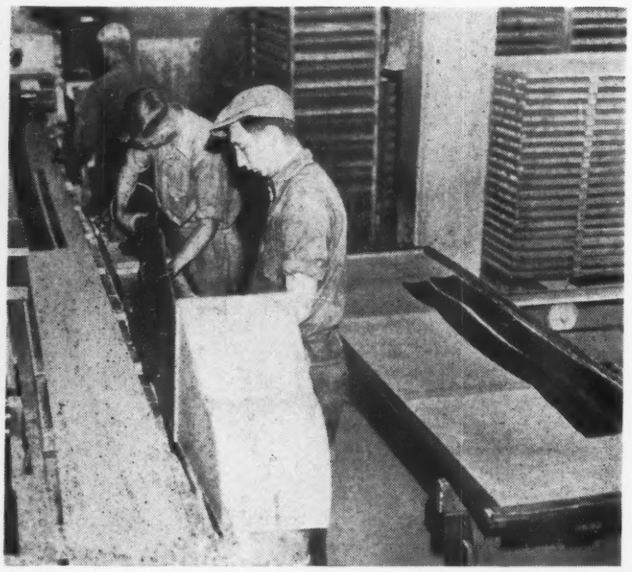
Send for our new catalog, showing our latest construction and explaining how each component helps to deliver the superb service Scott Presses are rendering.

WALTER SCOTT & Co.

Main Office and Factory
Plainfield, New Jersey
U.S.A.

New York
230 West 41st St.

Chicago
1330 Monadnock Block



Making Synthetic Rubber Sleeves for rubber-base Dayco Printing Press Rollers. The sleeves are being cut to required lengths from a continuous tube carried on a conveyor belt from the forming machine. The sleeve, which forms the outer surface of the roller, is made of synthetic rubber-like compound and allied materials.

Glycerine—To give the material pliability and to prevent drying out. Glycerine is hygroscopic, acquiring moisture readily.

Molasses—Sometimes used in small quantities to give tack. Also, it is a slow tanning agent.

Beta Napthol—Prevents composition from becoming rancid.

Tanning Agent—An agent that renders the composition non-meltable in a few days. Its action ceases after that.

Vulcanized-Oil Rollers

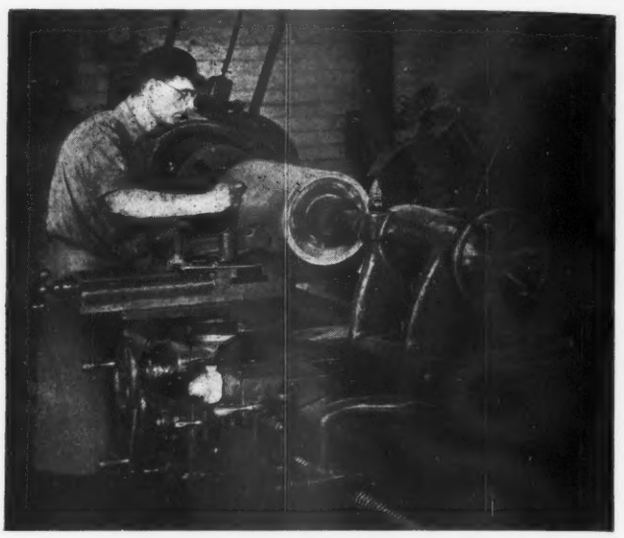
This roller was one of the first radical deviations from gelatin composition. It is said to be non-meltable, non-shrinking, and non-expanding and not to be affected by climatic conditions or heat up to 200 deg. F. It can be used for all positions on letter presses except as form rollers for use with metal type. This roller does not have a high tensile strength, which eliminates its use with metal type and rules. With reasonable care, proper cleaning, and careful handling this roller has an average life of two to five years. Where rubber type is used, it can be used in the form-roller position.

Vulcanized-oil rollers are made in an entirely different manner from composition rollers. A piece of seamless steel tubing of the desired diameter is covered on the inside with a thin layer of wax on a centrifuge machine that evenly distributes it to accurate gauge. After this has set, a layer of vegetable-oil compound is centrifuged in the same manner. This is called the shell of the roller. The material is vulcanized while revolving by a "cold vulcanization" process which is induced by the addition of a chemical that, when added to the oil mixture, generates sufficient heat to vulcanize it. The metal roller stock is then centered in the steel mold which contains the layer of wax and the vulcanized oil. The core material, which is also a vegetable-oil mixture properly charged, is poured in to form the core material of the roller. The hardness is controlled by the amount of charge used. After setting, the wax is melted and the roller is drawn from the steel mold. The centrifuging operation assures a surface entirely free from air cells or surface defects. A special lathe is used to grind these rollers to the diameter required and to make them concentric. The chief ingredients used in vulcanized oil rollers are as follows:

Linseed Oil—Main base oil.
Corn Oil—Minor base oil.
Soya Bean Oil—Minor base oil.
Sulphur Chloride—Vulcanizing agent.
Magnesium Oxide—Plasticizer and neutralizer.

Lithographic Vulcanized-Oil Roller

This represents the first substitute for leather-covered lithographic rollers. The surface is claimed to be free from air cells and color change from dark ink to a tint can be made without the darker color causing trouble because it had not been removed entirely from the face of the roller before the tint was run. These rollers are made in much the same manner as the vulcanized-oil roller, but different formulae are necessary to meet lithographic requirements.



View of specially-built machine employed by Ideal Roller Mfg. Company to grind the outside surface of certain kinds of rollers. The machine will crown a roller automatically in the center.

Rubber Rollers

The first rubber rollers used on letter and offset presses were not successful, due to the swelling and disintegration caused by the action of the oils in inks on rubber. Difficulties were also experienced because of the hardness of these rollers since, until very recently, a soft rubber compound was not available. Even when the first softer compounds were developed, it was found that the softer they were the more readily oil attacked the material. Sponge rubber was tried, but it was found lacking, due to the uneveness of the voids. The ultimate collapse of these voids caused low spots in the surface. In the main, these difficulties have been overcome so that rubber rollers are available for successful use on newspaper presses, some letter presses, and some offset and lithographic presses. The type of work being done, together with the general conditions involved, regulate the advisability of using this type of roller. The advantages are non-melting, non-shrinking, very little swelling (due to oils and not to climate), and toughness, which reduces damage to a minimum. On most classes of work these rollers will require occasional regrindings and, if dryers are used to any extent in the ink, care must be exercised to see that the rollers are

(*Continued on Page 111*)

Another Forward Step in Bearing Economy

"NORMA-HOFFMANN"

"CARTRIDGE"

PRECISION BALL BEARINGS

Designed especially to meet advanced engineering requirements, the NORMA-HOFFMANN "CARTRIDGE" Self-Sealed Bearing has the following advantages:—

At least 100% more grease capacity than any other standard self-sealed bearing.

Employs an entirely new labyrinth seal which is equally efficient in a horizontal or vertical position.

Flanged metal seal is removable to facilitate inspection, cleaning or re-greasing of the bearing.

Seals permanently maintain their efficiency without wear, friction, or power loss.

Utilizes built-in, grease-refilling plug.

No parts are exposed to the dirt hazard in preliminary handling.

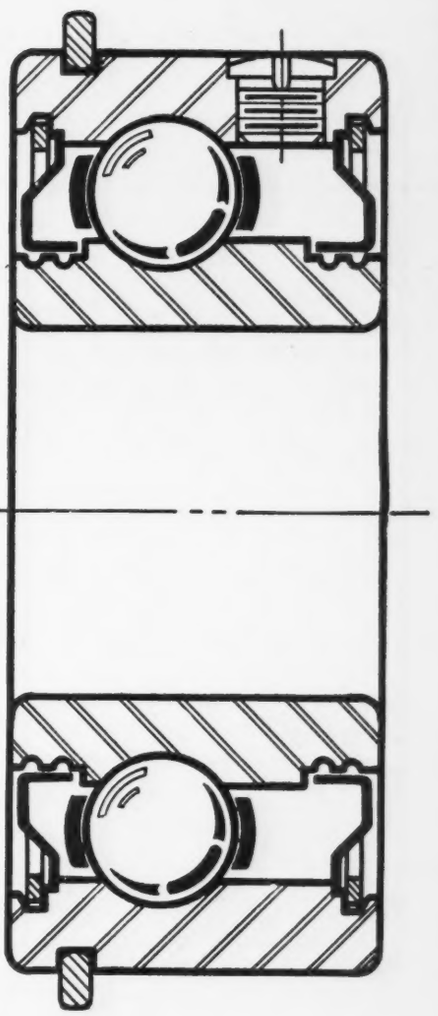
Double-row width safeguards against cocking and prevents slippage and "peening" in housing or on shaft; obviates use of locknuts.

Shortens overall length of motor and reduces overhang of shaft.

Shoulder ring permits through bore in housing.

Reduces cost through simplifying design, eliminating protective closure parts, and speeding up assembly.

Ask for catalog F-951, containing full details and typical "Cartridge" mountings.



AVAILABLE *in* FOUR DIFFERENT SERIES

"3600" — with standard outer ring.
"43600" — with shoulder ring in outer ring.
"3600-J"—with filling plug in outer ring.
"43600-J"— with shoulder ring and filling plug in outer ring.

NORMA-HOFFMANN BEARINGS CORP'N.—STAMFORD, CONN., U. S. A.

Imperial

TYPE METAL IS USED *by these* 5 CHICAGO NEWSPAPERS

Only Chicago Evening Newspaper With All Leading News Services—Associated Press, International News and Universal Service

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Crossword	8	Hill, Edwin C	10
Dart, Judy	5	Inspector Wade	7
Death of Views	11	Little Andrew	4
Dooley, Joyce	5	Married Comrades	6
Financial	14 15	Mandrake	8
Mortensen, Mary	6		
Popeye	10		
Radio	7		
Robinson, Elsie	10		
Rowland, Helen	14		
"Serving Stars"	10		
Short Story	11		
Sports	9-10		
Stuart, Wm. M.	16		
Vandercook	11		
Winchell, Walter	12		

CHICAGO AMERICAN

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HOME

Chicago Daily Tribune

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Today

(Reg. U. S. Patent Office)

Ethiopian Civilization.
Long Four-Mile Message.
Perhaps a Real War.
Rattlers and Black Widows.

CASH FOR A SONG! PRIZES IN BALLAD CONTEST— FULL DETAILS ON PAGE 4

Herald and Examiner

Chicago

HOME

VOL. LV—NO. 307 Registered in U. S. Patent Office. M★x TUESDAY—MAY 5—1936 Two Sections—Part I—THREE CENTS

All the News a Busy Man Has Time to Read

Chicago Journal of Commerce

— AND LA SALLE STREET JOURNAL —

Published Every Business Morning

VOL. XVI.—No. 173. REG. U. S. PATENT OFFICE, COPYRIGHT, 1936 JOURNAL OF COMMERCE PUBLISHING COMPANY TUESDAY, MAY 5, 1936 PRICE FIVE CENTS

Round Table of Business

Payroll Builders Needed Training Youths For Salesmanship Is Fine Move

By PHIL S. HANNA

GENERAL MOTORS declared 60 cents regular and 75 cents extra, which carries some implications, quite obvious, about the business situation in motor cars. The big company's earnings record in 1935 and 1936 has come with the offering of better products at low prices, which has made more jobs at higher wages than ever before.

Respectfully suggested that those interested in higher wages and higher prices for products of industry as an unemployment cure, consider how much less payroll there would have been for workers, and how much less dividends there could have been, if any, had NRA been in effect these many recent months.

REA FLOUTED IN VIRGINIA UTILITY CASE

Wheeler Trade Bill Passes Senate

Measure Is Sent to House; Outlaws Unfair Acts in

STANDARD (IND) TO PAY EXTRA 15C DIVIDEND

Market Picture

STOCKS	Prev. close 5-4-36	Week ago	Year ago
*Industrials	146.96	146.41	147.05
*Rails	43.52	43.78	43.01
*Utilities	28.93	29.06	29.61
*Comp. avg	52.41	52.25	52.47
(Total sales 1,671		491	2,206

ACTS TO CHECK CRITICS OF NEW TAX MEASURE

Increases on All Lines of Tires Announced

Akron Manufacturers Raise Prices 5 1-4 to 16 Pct.; Drop

G. M. VOTES 75C EXTRA AND 50C REGULAR RATE

Imperial leads because its type metal meets the ever increasing, exacting requirements of present day newspaper production.

Investigate Imperial Metals for your own plant needs.

IMPERIAL TYPE METAL COMPANY

Philadelphia • New York • Chicago • Los Angeles

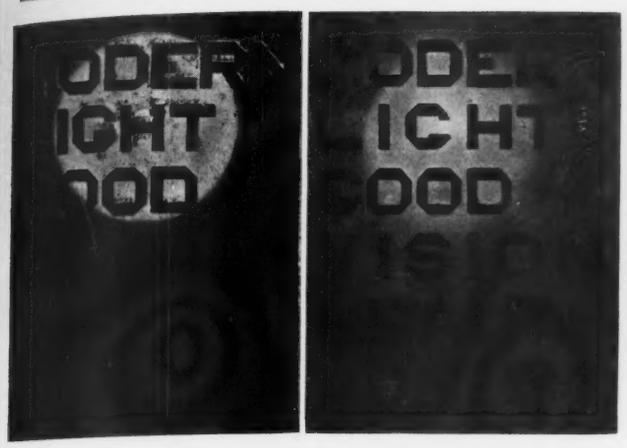


Fig. 1—Dark letters mounted on silvered mirror (representative of fresh type-slugs that have been proofed). The figure shows that characters are visible only when they lie within the image of the light source.

Fig. 2—Same as Fig. 1 except that backing for letters is type-metal in place of silvered mirror.

Lighting

For Printing Plant Improved By Detailed Engineering Study

Progress Report*

In spite of all that has been accomplished in industrial lighting during the last two decades, the conditions recently indicated by the industrial lighting surveys carried on jointly by the Committee on Industrial and School Lighting and the Committee on Lighting Service of the Illuminating Engineering Society are far from flattering to the industries themselves or to the lighting business.

Investigations in some 2500 industrial plants showed an average illumination level of but 2.85 footcandles. The average age of all industrial lighting equipment found was 8.7 years and the average number of watts per outlet was 121.

While there are some encouraging exceptions to this average condition, it is quite evident that the average lighting conditions in industry are much below those which should be in use if good seeing conditions are to prevail.

While much knowledge exists as to ways and means of lighting various industrial processes, there is a lack of proper standards for the satisfactory solution of specific lighting problems. It is doubtful if the one best method or, in many cases, even a good method in each industrial operation has been arrived at to the mutual satisfaction of illuminating engineers and industrial executives. Discussion of this matter over a considerable period, with representative men in industry and in illuminating work, very positively indicates the need and the value of fundamental studies to determine the illumination values adequate for industrial processes and the best methods of applying them.

Introductory

The work of a printer, considered from the standpoint of lighting requirements, may be divided into several phases. First discussed is the lighting for work on type and at presses, because of the basic importance of these operations and the unusual contribution that light can make to improve accuracy, speed, and eye comfort and morale of the printers. The following phases of the printing industry are considered:

Lighting for Work on Type: Hand-set type, linotype, monotype, etc., including work at the type case, imposing stone, type bank, on type-setting machines, or on the bed of the press.

*This report was submitted by the Committee on Industrial and School Lighting of the Illuminating Engineering Society, March, 1936.

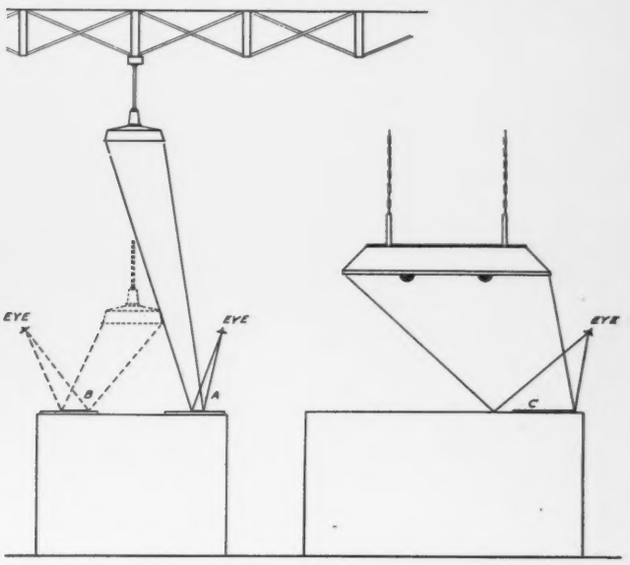


Fig. 3—Showing value of lowering the ordinary factory reflector over the imposing stone, and the ideal condition as represented by the right-hand figure.

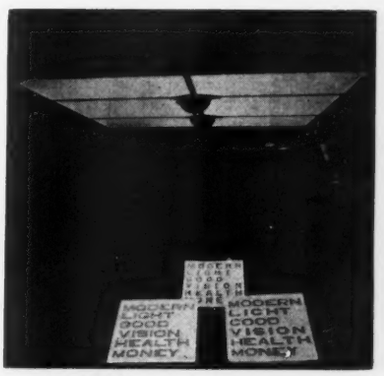


Fig. 4—Same type panels as shown in Figs. 1, 2 and 8, but illuminated by the proper style of fixture. Note that every character in each of the panels is perfectly silhouetted without glare.

Fig. 5—Showing special compositors' fixture hung above imposing table in printing establishment.

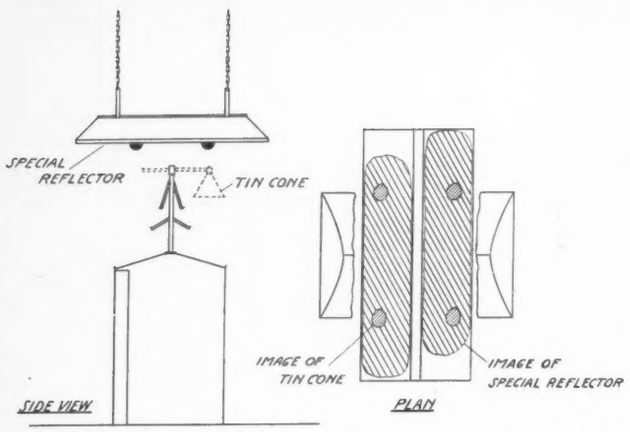


Fig. 6—Comparison of special compositors' fixture with typical cone shades for lighting type cases. Hatched areas show relative size of effective working areas.

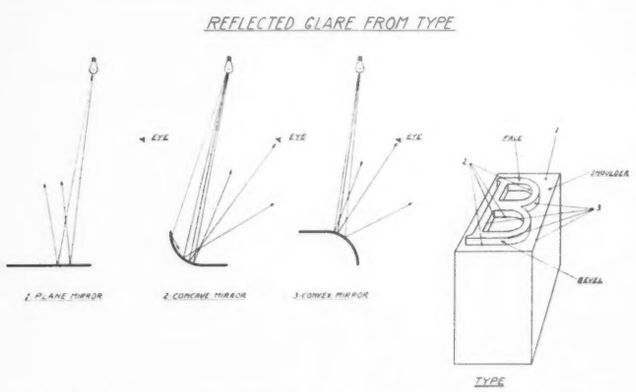


Fig. 7—Reflected glare from type. In the ordinary form there are many thousands of tiny filets and rounded corners that act as concave and convex mirrors to throw light back into the eye. If the light source is sharp, these reflections will be sharp, and injurious.

Lighting of Press Operations: Makeready on the press such as overlay and underlay, straightening up, registering, marking out, spotting up, distribution of ink, adjustment of guides, grippers, feed and delivery mechanism, and inspection of proofs at the press. Routine, operation of press, detections of work-ups in type, cuts or furniture; dirty cuts, offsetting, smudging, slurring, poor distribution, quality or "color" of ink. Final inspection and O.K. on color, register and general quality of work.

Lighting for Offset Printing: Makeready on press; clamping zinc, register, adjustment of water and ink flow, adjustment of guides and grippers, blanket and zinc underlays, etc. Photographic and developing processes. Stripping, opaquing, line-up and retouching of negatives. Preparation of zinc and contact printing.

Lighting for Intaglio or Photogravure Processes: Retouching, stripping, line-up printing, checking, etc. Cylinder layout, staging, etching.

Lighting for Work on Copy: Preparation of copy and cuts, layout, dummies, etc. Proofreading.

Lighting for Binding: Bindery operations.

The Economics of Good Lighting.

WHEN a printer works with clean type he is dealing with a metallic mirror which has some characters marked on it, namely, the raised face of the type which is, in general proofed once and is therefore darker than the shoulder (of the linotype slug, monotype, or hand-set type, whichever it is). The shoulder or flat depressed portions act as a mirror against which the characters must be silhouetted if they are to be seen at all.

To illustrate: Paste a considerable number of black paper letters on the face of a mirror. If a lamp bulb is held in front of the mirror, only those letters will be seen which fall within the image of the lamp. On the other hand, if the image of an illuminated wall is viewed in the mirror all of the letters will be easily seen because they are silhouetted against a light background, the image of the wall, which in the mirror is as large or larger than the mirror itself.

In dealing with type, therefore, a light source of large area should be used. Fig. 1 shows a mirror with letters pasted on it and lighted by a standard RLM dome reflector such as is found over the type cases and imposing stones in the great majority of printing establishments. Note that out of the total number of characters only those few that occur within the image of the reflector are revealed. The size of this image, when viewed by the compositor, is usually less than four inches in diameter.

Fig. 2 shows a metallic mirror made from type metal, with letters pasted on it as in Fig. 1. The same effects are produced as with a silvered mirror.

Many printers have discovered that if they drop the fixture to the lowest feasible position, they can see the type better. This is because when the fixture is lowered, the size of the reflector image is increased and therefore silhouettes more of the characters as illustrated in Fig. 3.

To cover the entire galley or form it is necessary to have a luminous area at least as large as the form, preferably as large as the stone, in effect an artificial luminous ceiling. Only economic reasons limit the extent of such a ceiling. The fixture shown in Fig. 4 has dimensions of 36 inches x 56 inches. It will be noted in this case that every character on the several mirrors is plainly silhouetted. Fig. 5 shows the fixture installed over an imposing table or stone.

Fig. 6 shows diagrammatically the large-area fixture over a standard type-case compared with the tin-cone shades which are found in so many instances. With the tin-cones good silhouette occurs at four small points as shown. With the large unit, the workable area of the case is increased as indicated by the larger hatched areas. Even so, the entire case is not completely covered. The dead area is, however, reduced to a minimum.

Glare from Type—Another factor that must be contended with in working on type is reflected glare. When linotype or monotype matrices are new all of the corners which the bevel makes with the shoulder are sharp and

(Continued on Page 84)

Fig. 8—Panel constructed to illustrate "pinpoint" glare that occurs where fresh type-slugs are handled under ordinary factory reflectors. Fig. 4 shows how this glare is wiped out under the proper style of fixture.

HONOR comes to *These Prophets* in Newspaper-Land

HAD there been in 1932 a convention of the Mechanical Superintendents who had the vision to see that the Kemp Idea of stereotype melting *might* work . . . and the faith to believe it *would* work . . . it would have been a very select affair. But we believe both of them would have had a good time.

Such a convention *today* would bring together a pretty imposing group. The roster would include a lot of names you know, men you admire, from large plants and small, men who can see ahead.

Other Mechanical Superintendents, who haven't made up their minds yet . . . who haven't investigated Kemp Immersion Melting with *gas* . . . Publishers who aren't sure whether they want to save 40 percent★on stereo melting . . . ought to press the secretarial buzzer . . . or reach for the telephone . . . and get hold of The C. M. Kemp Mfg. Co. at 405 East Oliver St., Baltimore, Md. The telephone is Vernon 1166.

KEMP of BALTIMORE

★ 40 percent fuel saving unconditionally guaranteed. Actual performance *frequently* 50 and 60 percent, *occasionally* 70 percent and higher.

Hard Steel Heads

Nearly every newspaper which has been a recent winner of one of the Ayer awards for best typography, uses a steel head for portraying its main sheet masthead. The New York *Herald Tribune* is one of the metropolitan newspapers which has had one in use for over 12 years.

Steel heads, when used in page forms for direct stereotyping on wet or dry mats, eliminate the use of reproductions. The finest details of the lettering or vignette is perfectly reproduced.

Made of high-speed manganese razor steel and highly tempered, the steel head is guaranteed for lifetime as absolutely indestructible.

The Sossner firm which specializes in these headings also maintains a modern art department where new mastheads are originated and old ones are revamped. This firm has made over 1500 steel heads for United States and foreign language newspapers, and is now engaged in filling many orders for newspapers in the United States, England, and France.

Introduces New Paper

Gar-Tone Book Paper, it is claimed by the manufacturers, brings to the graphic arts a new whiteness in uncoated paper which will greatly faciliate printing of natural color process plates. The D. M. Bare Paper Company feels that before very long the greater part of advertising illustration will be done in natural color from color photographs and also that the use of clear, bright colors will increase.

While experimenting with color reproduction technique, officials of the company state, it was found that when collodion sheets are super-imposed to show the composite of the various negatives needed to produce the finished color photograph, a pure white background is necessary for faithful reproduction. The conclusion was that in the printing of color plates made from negatives of these collodion sheets, identical results could be obtained only by using a whiter paper. Tests and exhaustive experiments were conducted to determine the proper ingredients for an uncoated book paper that would reflect all colors impartially.

A broadside demonstrating the qualities of this paper for natural color printing will be issued in the near future. The color photographs which will be used in the broadside are being made in The D. M. Bare Company's laboratories. In the picture are tints and solids varying from deep green to light green and from a deep red to a pink. For those who are not acquainted with the technique of natural color reproduction, a brief description of the process in included with the broadside.

The Colorlog

An unusual piece of letterpress printing entitled *Colorlog*, has been published recently by the Sigmund Ullman Company. The *Colorlog* was created by Faber Birren, the famous color specialist. It is intended as a guide for the solving of color problems arising in the creation or reproduction of printed matter.

The *Colorlog* is divided into six principal classifications of inks segregated on separate sheets which are spiral-bound at the top and die-cut at the bottom with color spots to indicate the contents of each sheet.

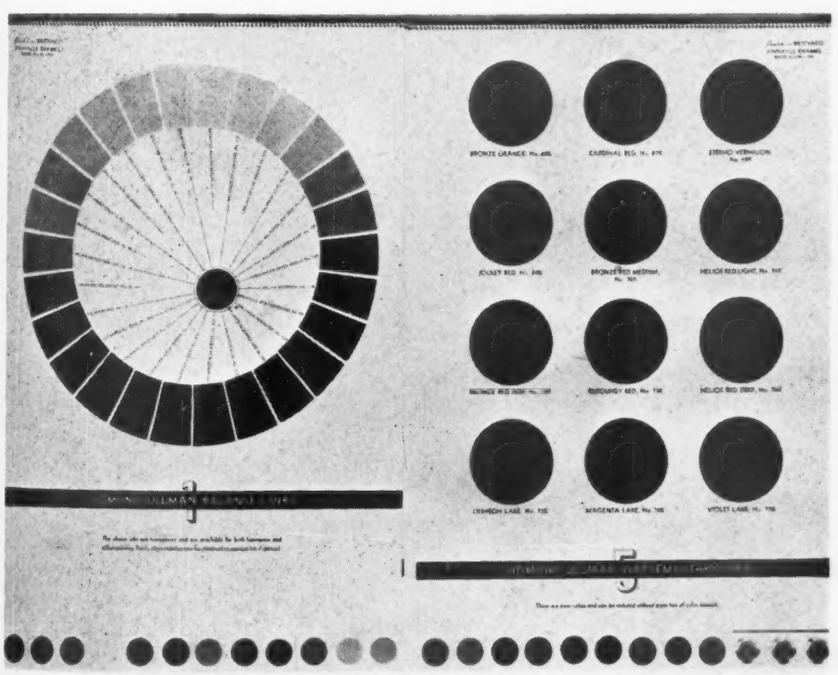
A striking feature of the *Colorlog* is the reproduction of a perfect spectrum of 26 balanced inks arranged in a circle. These balanced inks are transparent and may be used both for letterpress and offset printing.

Contained on a separate sheet are 12 color spots showing balanced tints in perfect harmony with the balanced inks composing the spectrum.

Shown in eight color spots on one of the charts are eight specimens of equalized inks. These are of medium color tone quality equalized between the one extreme of black type and the other of white stock. The manufacturer states this is an effort to solve one of the most constant of all problems in the Graphic Arts.

Other charts in the *Colorlog* exhibit supplementary inks in reds, purples, blues, greens and browns and are intended to complete the entire range of the spectrum.

Multi-process inks and other products are shown on several sheets.



Here are shown in black-and-white miniature two sheets of the new Colorlog *published by the Sigmund Ullman Company. The* Colorlog *exhibits over 100 ink specimens which are intended for use in the creation of color effects as well as to furnish color standards for duplication in various printing processes. It is published in hanger form, is spiral-bound in two sections at the top and is 12 in. by 18 in. in size. Copies of the* Colorlog *may be obtained by printers and advertisers.*

Power

For Printing Machinery Furnished By Mercury Arc Rectifiers

By H. R. Behr*

IN THE fall of 1934, the Alco Gravure Company of Chicago acquired a group of buildings to permit moving existing rotogravure presses and other machinery into buildings that would afford space for the installation of a large additional press and allow for future expansion. The new location was in a territory served only by alternating current power, by the Commonwealth Edison Company, which immediately raised the issue of the relative merits of alternating and direct current for the operation of the printing presses.

The customer had a large number of machines already equipped with direct current motors and control, and only needed to purchase additional motors and control for the new press and its auxiliaries.

Thus the adoption of alternating current meant the scrapping of all existing apparatus and the purchase of all new alternating current motors and control. The alternative was to keep the present direct current apparatus, purchase similar direct current drives for the new press and install power conversion apparatus for the major part of the plant connected load.

These and other considerations led us to recommend that the customer use power conversion equipment for that portion of his connected load requiring direct current motors and control, and the use of 220 volt, 3-phase, 60-cycle service for the building equipment motors and constant speed auxiliary machines and 110-220 volt a.c. power for lighting.

The apparatus which appeared to us the most logical choice for conversion in this case was the mercury arc rectifier with full automatic control because of the following considerations:

This customer's printing plant is in practically continuous operation, being on a seven-day week schedule, the presses being on production runs about 5½ to 6 days out of each week.

The connected load used directly for operation of printing presses and their auxiliaries was estimated as about 400 h.p. The balance of the power load for the building equipment and constant speed machines was estimated as about 260 h.p., all of which could readily be alternating current drives. The lighting load was approximated as 80 k.w. with the likelihood of reaching 100 k.w. when the new buildings were fully equipped.

Records of actual plant loading or demand had never been kept, so for a basis for a selection of the number and capacity of the conversion units to be used, the following estimates were used:

The total connected motor load which must be preferably supplied with direct current energy will be 400 h.p. approximately.

Taking a very conservative viewpoint we shall say the actual loading for each working day will average 325 h.p. for 8 hours and 100 h.p. for the remainder, or 16 hours. The maximum demand during the 8 hours will probably not exceed 360 h.p.

*Cline Electric Mfg. Co., Chicago, Ill.

The above figures indicated a nominal substation capacity of 400 k.w. which would provide for approximately 20% growth in connected load, and also insure a reasonable margin of safety for short time or sustained overloads such as might possibly be expected in this class of service. Two conversion units of 200 k.w. capacity each were thus selected.

This selection would give a high degree of flexibility and good operating economy, inasmuch as the two units would very nicely carry the heaviest load, while only a single unit moderately loaded would carry the load for about two-thirds of the time.

In order to compare the overall economy of the rectifiers with a similar installation of synchronous motor generator sets, performance figures for 200 k.w. standard 100% power factory units were used. Since the installation called for full automatic operation, the constant losses were assumed to include the no-load losses of the live rectifiers and the vacuum pumps and heaters and the idle current for maintaining temperature of the generator fields. Average loading kilowatt figures are based on .9 k.w. input for 1 h.p. motor output.

The comparative cost of the losses of operation were based upon power charges of $1.25 per k.w. for demand in excess of 200 k.w. and on energy charge of 0.6 cents per k.w. hr. and a charge for cooling water of 51 cents per 1000 cu. ft.

Differences in losses and power cost:	
Daily station energy loss MG sets	—767 k.w. hrs.
Daily station energy loss Rectifier	—455 k.w. hrs.
Excess daily station losses with MG sets	312 k.w. hrs.
Daily station cooling water consumption 418 cu. ft.	
Station losses for av. monthly max. demand MG sets	57 k.w.
Station losses for av. monthly max. demand Rectifiers	33.3 k.w.
Excess average monthly demand with MG sets	23.3 k.w.
Annual excess energy cost with MG sets (300 days x 312 x $.006)	$561.60
Annual excess demand cost with MG sets (12 x 23.3 x 1.25)	349.50
Total annual excess power costs with MG sets	$910.10
Annual cost of rectifier cooling water (360 x 418 x $.51)	63.95
Net annual excess power costs with MG sets	$846.15

The annual saving of $846.15 in the cost of power obtained by the use of the rectifiers instead of motor generator sets would, if invested annually at 5% interest in a sinking fund, write off the total investment cost of $20,000 in 16 years. This in itself represents a depreciation rate of 4.25% which is considered reasonable for the class of equipment. A more conservative financing of the project would provide a depreciation allowance of a minimum of 2½%, or $500, which if added to the $846 saving, would provide a sum of $1,346 to be invested annually at 5% which would write off the original investment in 10½ years. This would clearly be a very sound proposition as the remaining life of the equipment would be clear profit.

While it is quite evident that a rotary converter is more efficient than a motor generator set, a similar comparison between this type of conversion and the mercury arc rectifier would still be decidedly in favor of the arc rectifier. The actual saving while somewhat less would be reduced only in proportion to the small difference in efficiency between the rotary and motor generator set.

While the savings in cost of power cost might appear to be sufficient justification for the choice of arc rectifiers there were other factors to consider which again were favorable to the rectifiers.

(*Continued on Page 78*)

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. . . . . are invited to see . .

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CONSISTING OF . . .

Cline Unit Type Drives
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OPERATING AT HIGH SPEED IN THE CHICAGO TRIBUNE

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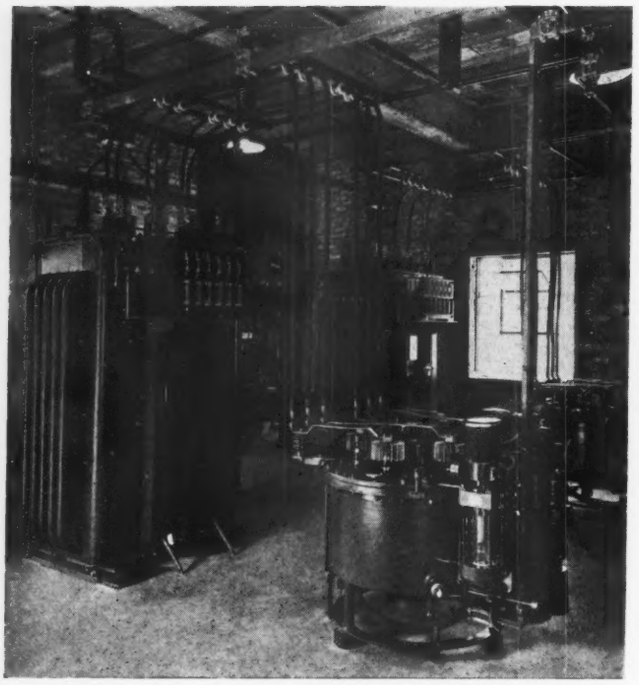
Eastern Office
220 East 42nd Street
NEW YORK CITY

CLINE SYSTEM
QUALITY NAME SERVICE FAME
CLINE ELECTRIC MFG. CO. CHICAGO
CLINE WESTINGHOUSE



Second-floor view of mercury arc rectifier and associated equipment installation in plant of Alco Gravure Company, Chicago, Ill., for converting a.c. to d.c. current to drive the printing machinery. At the left of the room in front of each of two Westinghouse F-22, 7500-volt, 600-amp., solenoid operated oil switches may be seen two rectifier transformers. At the right central part of the illustration are two Westinghouse mercury arc rectifiers. Each unit is rated normally for 200 kw., 235-v., d.c. output with overload capacity of 125% for 2 hours.

In this installation the customer was obliged to build an addition to his plant to house the electrical conversion equipment and the power company transformer vault which was to be fed from the underground high-tension primary cables, terminating at a point just outside the customer's plant.

For the installation of motor generator sets or rotary converters the building would have to be designed to provide heavy foundations for the machines such that they would minimize vibration and noise and also provide for forced ventilation, and the building would have to be equipped with ventilating apparatus. In addition, sufficient space would have to be allowed so the machinery might be dismantled for repairs should they become necessary.

As contrasted with this the mercury arc rectifier is wholly static apparatus entirely free of noise or vibration, requiring no ventilation and only a small steady supply of water for cooling. The rectifier, therefore, can be installed in the minimum of space on standard fireproof floor construction and in this case permitted a distinct saving in the building construction costs.

From the standpoint of installation cost, the mercury arc rectifiers have the advantage, as they are shipped assembled and are easy to handle and place in position.

The electrical and water connections are simple and direct and no careful alignment work is necessary. The balance of the apparatus comprising the complete installation is only standard transformers, primary line oil switch gear and conventional control panels.

Where, as in this case, automatic control of the conversion equipment is involved, a comparison of the rectifier and rotating apparatus with respect to reliability of service and cost of maintenance shows them to be on an equal footing.

The rotating machines have bearings and brushes to be maintained and renewed at intervals, commutators which wear and must be cleaned and dressed, and windings to be cleaned periodically to minimize insulation failures and the automatic control apparatus is fairly complex.

The rectifiers have a very few elements subject to deterioration. The rectifier auxiliaries such as the mercury vapor pump, and the rotary oil-sealed vacuum pump, vacuum gauge and automatic water valve and tank heaters, have been developed to such a high state of reliability that they require only the same periodic inspection and cleaning that is normally given to comparable control apparatus. The devices necessary to the automatic control of two or more rectifiers is relatively simple and less complicated than that required for automatic control of rotating machines.

The occasional arc backs which may be experienced because of line or load disturbances, or unfavorable arc conditions in the rectifier, will clear themselves automatically with only momentary interruption of service and with no damage.

From the standpoint of operating characteristics, the rectifier has a distinct advantage over the rotating machinery. Especially so in connection with a printing plant where the actual loading will vary over such wide limits for long periods of time. The rectifier has practically unity power factory, only slightly lagging, the efficiency is high, in the order of 90 percent from full load to half load and falls off only about 2 percent at ¼ loading or less, the no-load and light-load losses being very low. The voltage characteristic is only very slightly dropping with increasing load.

The choice of the rectifier having been definitely settled, the next problem was the design of a suitable but inexpensive building to house the Commonwealth Edison Co.'s transformer vault and the rectifier equipment.

The final plan as agreed upon with the architect and power company called for a building 30 ft. by 31 ft., two stories high, to be attached to the customer's printing plant.

The structure was to consist of brick walls with steel columns and beams and reinforced concrete floors and flat roof.

The first or ground floor houses the power company's 4000 volt line transfer switch, a bank of three 100 k.w. 3600 to 220-volt 60-cycle power transformers, a 100-k.w. single-phase 60-cycle 3600 to 220-110 volt lighting service transformer and the necessary metering transformers.

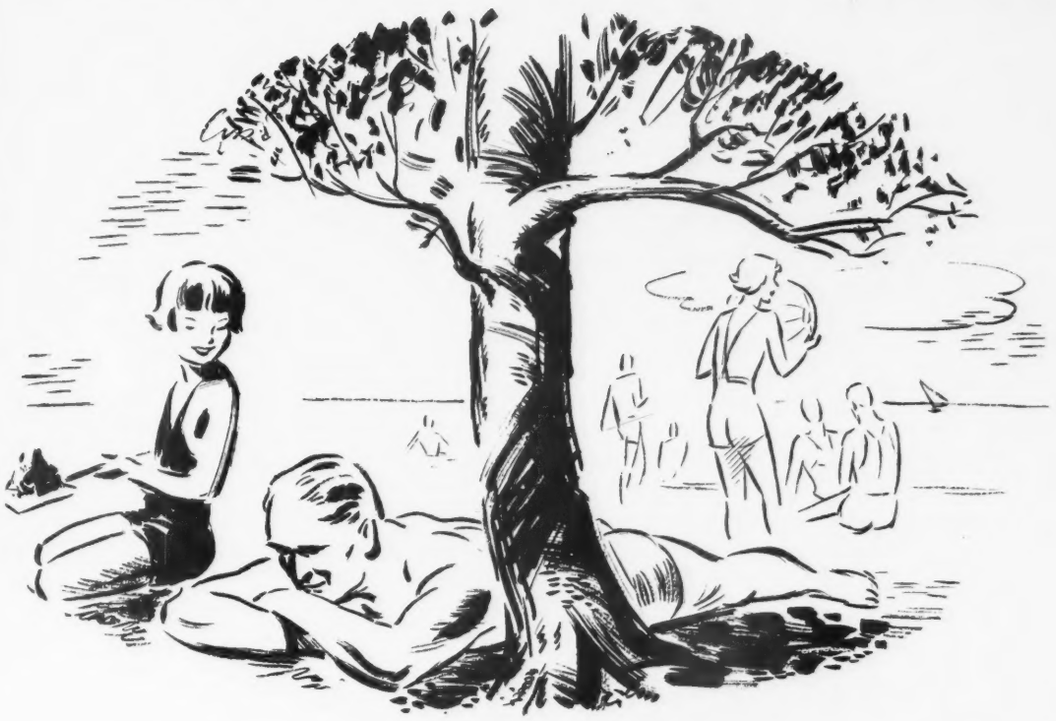
The second floor is used for the entire rectifier installation, the 220-volt, 3-phase, 60-cycle power service distribution and the 220-110-volt lighting service and metering panels for group of three buildings.

The 3600-volt, 3-phase, 60-cycle power line comes up through the floor in the southwest corner of the room. It consists of three No. 0 lead-covered cables in a conduit. This terminates near the ceiling in a bus enclosed in a steel cabinet extending along the west wall. Below the bus enclosure and attached to the wall are three sheet metal enclosures, on about 8-foot centers, to house air disconnect switches. Two sets of switches are used for the present installation of two rectifiers and the third is for a future unit.

Connecting with each switch cabinet is an angle iron structure supporting the Westinghouse F-22, 7500-volt, 600-amp. solenoid operated oil switch for the primary connections between the bus and the rectifier transformers.

In a direct line from west to east, and about 5 feet in front of each oil switch is set a rectifier transformer. The transformers are rated 232 k.w., 3600-volt, 3-phase, 60-cycle primary to 255 volts, 6-phase secondary double wye connected with interphase transformer. The over-

You Rest Serenely With Certifieds on Guard



HOW do things run when the boss is away? That is the real test of organization and executive capacity. The competence that makes for untroubled vacations embraces questions of personnel, of system, of equipment and of materials.

Many a mechanical executive will find vacation ease in the thought that dependable, uniform Certified Mats are safeguarding the stereotyping routine—that their easy molding, quick scorching and low temperature casting are doing their part to bring out attractive editions, with gratifying speed and certainty.

Add this factor of assurance to your vacation joy by relying on Certified Mats, made in the U. S. A.

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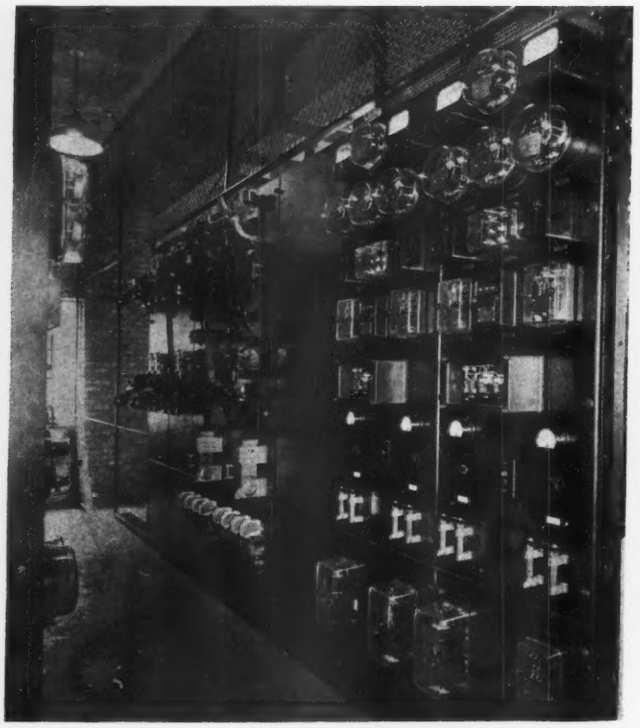
Certified DRY MATS

338 MADISON AVENUE, NEW YORK, N. Y.



Group of mercury arc rectifier power converting equipment control panels in plant of Alco Gravure Company, Chicago, Ill. At the right are shown two a.c. control panels, one for each rectifier, with space left for installation of another in the future. At the left are two d.c. rectifier control panels containing the d.c. 1200-amp. breakers, line-knife switches (below) and circuit breaker solenoid operating mechanisms and relays. At the far end of the board are two d.c. feeder panels, on the rear of which are mounted the station d.c. bus. On the front are four feeder circuit breakers for the supply lines to the groups of press drives in the three buildings composing the printing plant.

lead rating is 125% for 2 hours. The transformers are oil-immersed, self cooling, sealed off and filled with nitrogen gas above the oil.

In front of each transformer is its associated Westinghouse rectifier. Each unit is the conventional steel tank type about 40 in. diam. by 44 in. high with six anodes, mercury pool cathole and water cooled. Each is rated normally for 200 k.w., 235 volts direct current output with an overload capacity of 125% for 2 hours. The connections from the transformer secondary to the rectifier anodes are made by six 500,000 CM, 500-volt rubber covered cables carried through procelain spools on an overhead steel supporting frame.

Each rectifier has attached to it an automatically controlled vacuum pumping system consisting of a mercury vapor pump, and interstage reservoir with varometric vacuum pump.

For maintaining the proper vacuum there is a contact-making mercury manometer for starting the rotary oil pump, also a Pirani gauge instrument to prevent operation if the vacuum pressure should become too high and a McLeod gauge for checking the vacuum pressure at any time.

For automatically starting and maintaining the arc in the rectifier it is equipped with excitation equipment consisting of a solenoid operated striking anode and separate keep-a-live anod and rectox rectifier unit which furnishes the direct current for the exciting arc and striking solenoid.

To maintain the correct vapor pressure in the tank a uniform temperature is maintained by regulating the cooling water supply through the medium of a water temperature regulating valve attached to the tank ahead of the inlet water line.

The positive or cathode connection from the rectifier pool is made with 3 by ½-in. copper bus bars direct from each rectifier to the circuit breakers on the d.c. control panels. The negative connection is made from the mid point of the transformers with 3 by ½-in. copper bus bars direct to the negative bus on the rear of the d.c. control panels.

The group of rectifier control panels are arranged in a line extending north and south, with backs of the panels about 4 feet away from the rectifiers. The group of panels are about 15 feet in length and located about centrally in the room.

There are two a.c. control panels one for each rectifier, then space is left for the third or future. Next in line are the two direct current rectifier control panels, containing the d.c. 1200-amp. breakers, line-knife switches and circuit breaker solenoid operating mechanisms and relays. These are followed by two direct current feeder panels, on the rear of which are mounted the station direct current bus and on the front the four feeder circuit breakers for the supply lines to the groups of press drives in the three buildings of the printing plant. Space has been allotted for the d.c. output and feeder panels for the third unit.

The rectox excitation units and transformers are mounted on top of the steel frame work supporting the a.c. rectifier control panels.

The a.c. control panels are the central point for the control of the entire station. They contain the ammeters, voltmeters, start-and-stop push-button stations, arc back counting and indicating relay annunciator lock-out relay, timing relay for starting sequence and master relay for loading control and the auxiliary relays such as a.c. overcurrent, a.c. thermal relays, vacuum relay and Pirani gauge ammeter.

To automatically regulate the station capacity to the load demand, the two rectifiers are kept alive at all times, but only one is connected to the a.c. lines and the d.c. bus. As the load demand exceeds the normal capacity of one rectifier by 10% the master relay closes the necessary contacts to energize the second rectifier from the a.c. line and then closes its output breaker to connect it to the d.c. bus in parallel with the No. 1 unit so it may take on its proportionate share of the load.

When the load demand falls below 40% of the capacity of two rectifiers, the master relay again acts but this time to cut the No. 2 rectifier off the a.c. bus and the a.c. line leaving only No. 1 unit to carry the station load.

This regulating of the station capacity to suit the load demand is a continuous and automatic performance, requiring no supervision, and the division of load between the units is always equal because their voltage characteristics are identical.

In addition to the automatic loading feature, the rectifier control equipment embodies a number of automatic protective features of great importance to insure continuous and correct operation.

The conditions unfavorable to the operation of a rectifier and for which protective devices are required, fall in two groups. One group of conditions are known as self-correcting, while the second group are the conditions which require some maintenance work to correct, and for this group the unit affected is locked out of service.

The conditions which are self-correcting and cause only temporary shut-drown are: Excess gas pressure in the rectifier, one or two arc backs per unit, transformer

A NEW AND HEAVIER TUBE BOOTH'S ZINK CUT CEMENT

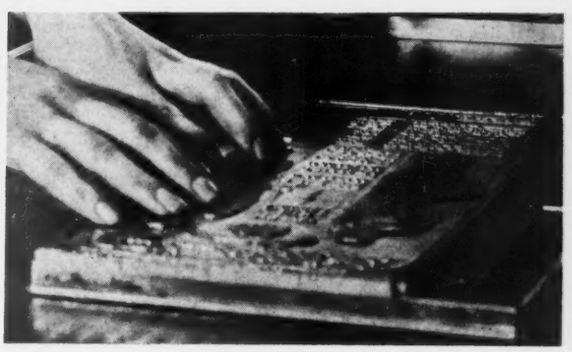
● In this illustration is shown the new and sturdy tube, with Stand-A-Lone Holder, now furnished users of Booth's Zink Cut Cement. We have adopted this tube to provide maximum utility and economy in use.

In addition, we have had the label printed directly on the tube in ivory background with green design. We are sure users will appreciate these improvements.

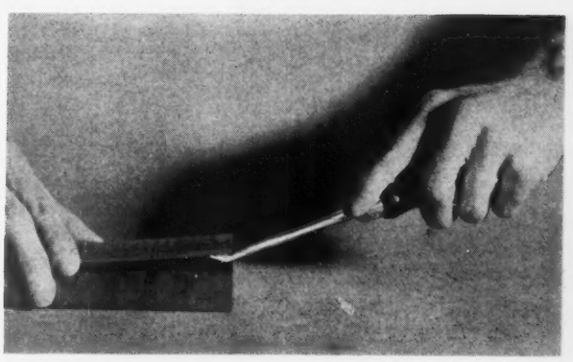
Booth's Zink Cut Cement fastens zinc and copper cuts, electros, stereotype shell casts and synthetic composition cuts to wood or metal base.

Gentle finger pressure controls the amount of cement which is applied when a cut is to be cemented to its base. A slight turn of the wing handle squeezes additional cement into the unused part of the tube. No muss—no waste.
Stand-A-Lone Holders may be bought separately at 2 for .25c or $1.00 per dozen.

Here the cement is being applied to the back of one of the twelve cuts in this form. By using slight finger pressure upon the tube, small patches of the cement are applied in several places, and with a slightly rotating motion of the fingers, the



cut is pressed down firmly to spread the cement to **film thickness.** Booth's Printers' Zink Cut Cement, when used sparingly, holds cuts to bases with the strength of a tiger's paw.



If cuts are to be removed from bases, a 10c screwdriver bent to the shape shown here does the job effectively. If it is desired to clean the cement from the cut, mineral spirits (type cleaner), gasoline or a mixture of carbon tetrachloride and benzol may be used.

50c large tube; $5.00 dozen tubes; $4.00 dozen tubes gross lots (in U. S. and Canada)

The E. A. BOOTH RUBBER COMPANY

364 ROCKEFELLER BUILDING — CLEVELAND, OHIO

"... We Couldn't Get Along Without It!"

Again and again, in such words as these, users testify to the indispensability of their Mohr Lino-Saw equipment.

These users know, by actual experience, the extraordinary saving in time and expense effected by automatically sawing their odd-measure composition at the linecasting machine. Daily use has proved the efficiency of the Mohr Lino-Saw simplified measure control, which enables the operator to make all necessary measure-changing adjustments by a few turns of a conveniently-placed dial.

Read the comments below—the remarks of representative Mohr Lino-Saw users, large and small, in plants like your own. Why not make it a point—now—to learn just what the automatic Mohr Lino-Saw system can do for *you?* Ask your Linotype or Intertype representative, or

MOHR LINO-SAW COMPANY
609 West Lake Street, Chicago

"Seven Mohr Lino-Saws in operation in our plant of which two are D's. . . . Couldn't keep house without them."

"Our two new Mohr Saws are a wonderful asset to our composing room. A great time saver. Wouldn't be without them. Nothing better."

"We have used our Lino-Saw on No. 14 now for more than one year. It has never been out for a minute. It has saved its cost already. How anyone can get along without it is beyond me."

"We have two Mohr Saws—one 30-em and one 42-em. Don't know how we could do without them. They make automatic quadders doubly efficient."

"Our Lino-Saws have given perfect service. We regard them as indispensable."

(The originals from which these excerpts were taken—all written within the last few weeks—are on file in our office.)

MOHR LINO-SAW

over temperature, under temperature of the rectifier tank because of too-cold cooling water.

The conditions under which the unit is locked out of service are a.c. short-circuit or severe overload, sustained d.c. overlead on unit, three successive arc backs one unit, over-temperature of rectifier tank or mercury pump water jacket from insufficient or too high temperature cooling water.

Excess gas pressure would shut down a unit and hold it out of service until the mercury pump reduces the pressure to a point where the gauge contacts close and restore the unit to service automatically.

An arc back causing 10% or more reverse d.c. current will trip the d.c. breakers and in turn the a.c. breakers of the unit and will start the timing relay. When the timing relay contacts close, the breakers will be reclosed and if conditions are right the unit will stay in service, but if not right, the breakers will open again. This sequence will be automatically repeated three times and if then conditions are not normal the unit will be locked out of service.

Transformer over-temperature will trip the breakers and hold them open until the temperature has dropped to normal, when the relays will restore the unit to service.

Too low tank temperature will hold the breakers open till the tank heaters have raised the temperature to proper value when the relay will restore the unit to service.

In the rectifier room directly opposite and facing the front of the rectifier control panels are located the power company's primary a.c. metering and a.c. lighting service meter panels and also the main 220-volt, 3-phase, 60-cycle service breaker of the Deion type together with the 220-volt, 3-phase bus and the necessary dead-front type Deion circuit breakers for the feeder circuits for a.c power and lighting for all the buildings in the customer's group.

As the direct current feeders had to pass under the a.c. panels without going through the floor, all control panels were set up on 8-in. high steel framing with steel plates, forming a false or operating floor between the two rows of control panels. This provided a large space under the panels through which all cables could pass and still always be accessible.

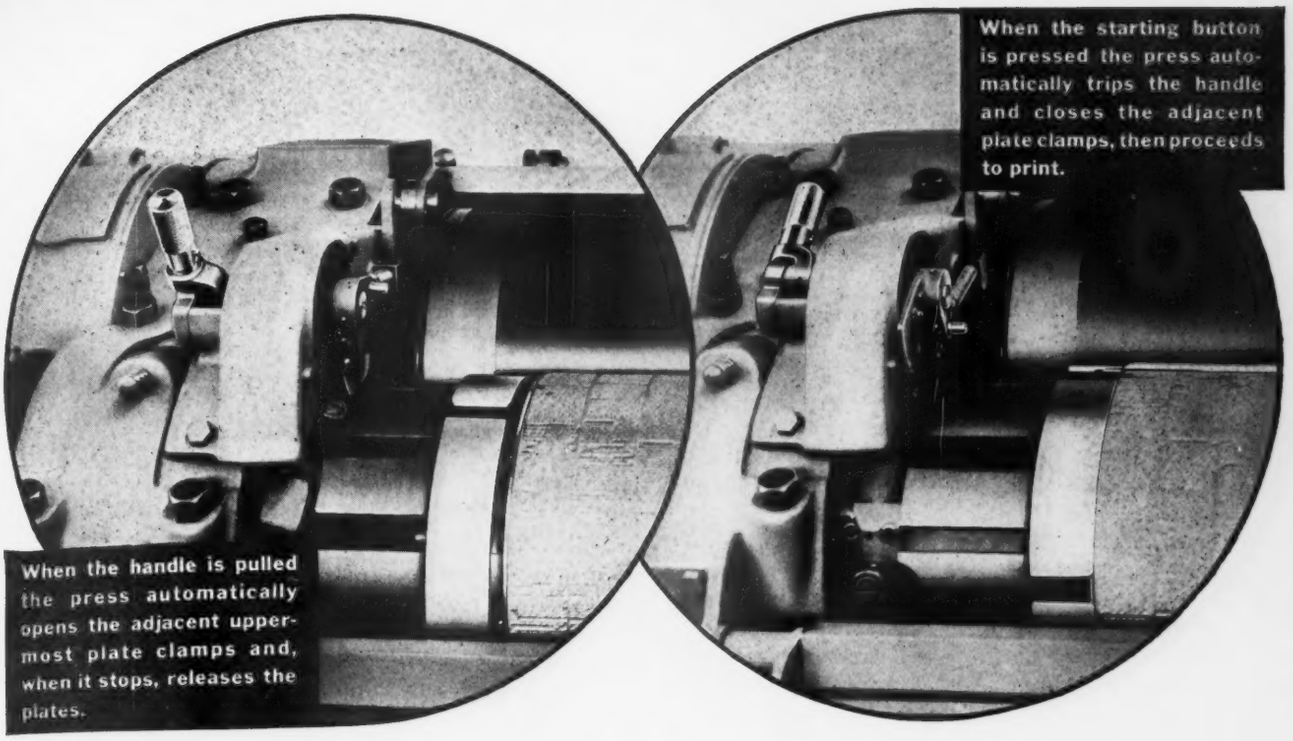
The complete installation was officially placed in service on May 20, 1935, and has been in continuous uninterrupted service since that time with excellent results.

The equipment operates 24 hours per day, 7 days per week, and there have not been any actual shutdowns. The only interruptions of service have been for 2 or 3 seconds duration while the second unit picks up the load when the number one unit is automatically cut off by operation of one of its protective relays, such as tank thermometer, vacuum gauge or transformer thermometer.

Twice during the past year very accurate tests were made over a definite period of time, during which total input and output were measured. These showed an overall efficiency of 89.7% at 40% load, including all losses.

Economy Chucks Moves to Chicago

Economy Chucks, Inc., has moved its offices to Chicago The new location is at 203 So. Dearborn St. For the past several years this concern operated its business from Omaha, Neb. Other offices are being established as rapidly as possible to enable the concern to serve the printing and paper industry to better advantage.


When the starting button is pressed the press automatically trips the handle and closes the adjacent plate clamps, then proceeds to print.
When the handle is pulled the press automatically opens the adjacent uppermost plate clamps and, when it stops, releases the plates.

The AUTOCLAMP *For Quicker Starts*

THE WOOD PRESS is the only printing machine which clamps and unclamps its printing plates.

It is therefore able to preserve, as no other press can, the accuracy and printing quality of its plates, which otherwise would be jeopardized by the distortion which is incidental to hand clamping.

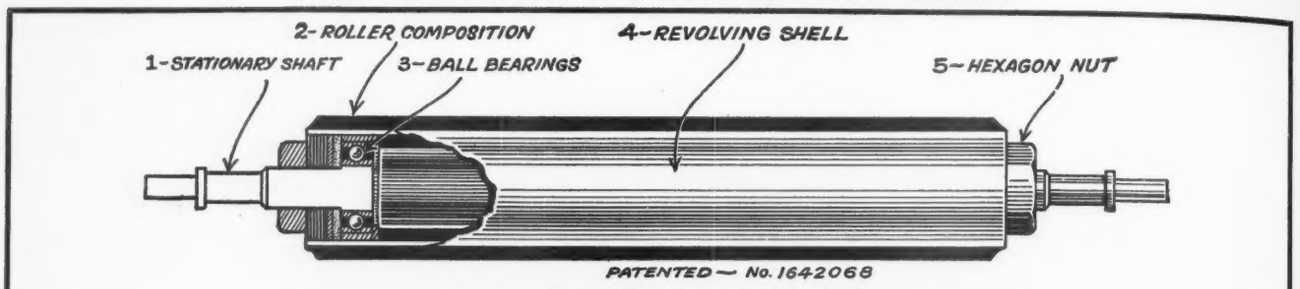
This new device is called the Autoclamp. With the Autoclamp, plates cannot be over-clamped and sprung, or underclamped and thrown off; nor can they be left unclamped by oversight to the damage of press or blankets. By means of this device hurry and forgetfulness cease to be menaces in plate clamping because the human equation is eliminated.

Automatic plate clamping now becomes a permanent contribution to the industry. It saves valuable time and effort in starting presses, or in making plate changes, or in redressing presses. It also lessens the need for re-plates.

WOOD NEWSPAPER MACHINERY CORPORATION

Plainfield, New Jersey . . . New York Office, 501 Fifth Avenue

THE CORE WITH THE STATIONARY SHAFT



HART'S
BALL-BEARING ROLLER CORE

PATENTED

When you have roller troubles, don't blame your press manufacturer, pressman or roller maker, as more often it is due to the old style core which has never been improved or changed since the advent of modern presses, and has become obsolete. Ball-Bearing Roller Cores will do sharper and cleaner printing, reduce friction, eliminate worn sockets and journal ends, and will save power. Remember these facts when ordering new presses. Specify *Hart's Ball-Bearing Roller Core.* Your old presses can be equipped without change of parts.

Send for circular and prices without obligation.

WILLIAM C. HART COMPANY, INC.

PRINTERS' ROLLERS

137 GREENE ST., NEW YORK CITY — 259 EXCHANGE ST., ROCHESTER, N. Y.

Lighting

(*Continued from Page 74*)

clear cut. The same is true with the top edges of the character. As matrices become worn, round edges appear both where the bevel joins the shoulder and at the top of the character. These rounded edges constitute concave and convex mirrors which create glare, and this glare follows the eye around into any position it may assume, as shown in Fig. 7. When it is realized that in the ordinary size form there are tens of thousands of these points of glare and that the compositor must face these at close range for hours at a time, the seriousness of the condition is apparent. This is further illustrated in Fig. 8. So far as this glare is concerned, some improvement can be effected by using in place of clear lamps, bowl-enameled lamps or silvered-bowl lamps, or new Alzak aluminum finish metal reflecting cups attached to the underside of the lamp bulb.

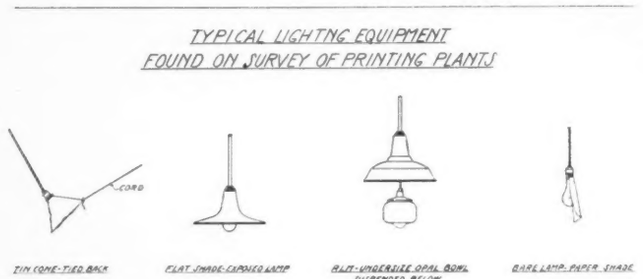


Fig. 9—Typical lighting equipment used in printing plants as disclosed by the Chicago survey.

Typical Lighting Equipment—Fig. 9 shows lighting equipment that is perhaps familiar to all printers. Hundreds of examples of all of these types may be found the country over.

There was recently noticed a large advertisement of a printing-press concern which had just installed a number of fully automatic presses in a new establishment. The job as a whole was proudly pointed to as a fine modern installation. Lighting these presses was a row of small lamps in tin-cone shades on drop cords. The total press investment was presumably in the neighborhood of $50,000. The total investment in the inadequate lighting equipment was perhaps a matter of a few dollars.

Solution of the Problem for Hand Composition, Imposing Stones or Tables—Summing up, therefore, the studies indicate that the best lighting for compositors' cases and imposing stones or tables should possess the following fundamental factors:

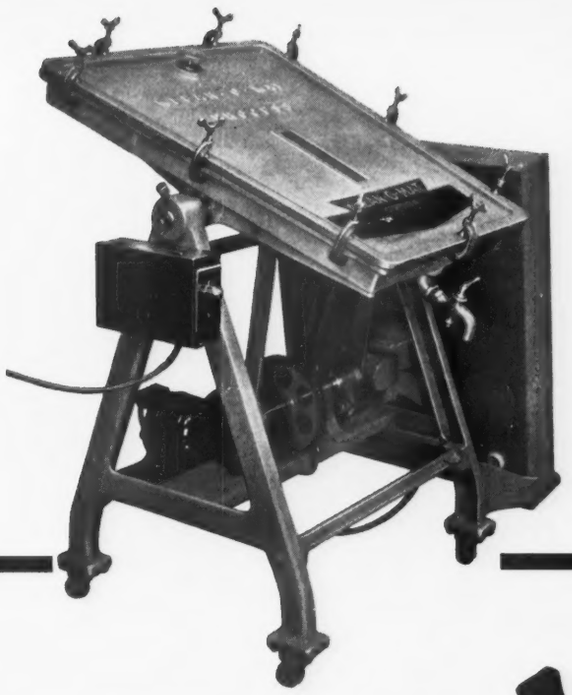
First: Whatever fixture is used should have a low uniform brightness. This excludes any fixture with bare or frosted lamps that are even partially exposed in the direction of the type.

Second: The luminous area of the fixture must be large.

Third: The unit must be hung low enough so that the maximum coverage on the type is obtained, without interfering with the worker.

Fourth: The illumination at the point of the type should not be less than 20 foot-candles and preferably around 50 foot-candles.

Machine Composition—All linotype and intertype machines are equipped by the manufacturers with lamp and half-shade mounted on removable post. A wide variation is noticeable. In general there is a fair amount of light at the copy and at the carriage, particularly the latter. The tray is usually underlighted (from 6 to 10 foot-candles) which is a weakness, according to the operators. It is suggested that the machine manufacturers should experiment with the reflector which ap-



For a practical demonstration and further explanation of the Process, as well as the new plan, see our representatives at the Palmer House, Chicago, during the A. N. P. A. Mechanical Conference, May 25, 26, 27.

Klean-o-Mat

TRADE MARK

•A NEW COMPANY A NEW POLICY

The great need for the "KLEAN-O-MAT" Process has existed for nearly 50 years . . . ever since the line-casting machine was invented. This $100,000.00 company *now* makes the *many* benefits and distinct economies of "KLEAN-O-MAT" available to *every* plant, regardless of size, *without* capital investment.

Running mats out to clean them; rubbing on pine boards, attempting to clean in benzine and the use of rubber erasers are as *obsolete* as wet mats, hand set type, kerosene lamps, etc., and *every* composing room executive, or line-casting machine owner, should investigate "KLEAN-O-MAT" without delay.

"KLEAN-O-MAT" eliminates the *major* percentage of errors; cuts out extra proof reading, double handling, "revises" and delays at press time; provides *all* the visibility necessary and reduces eye-strain *for a fraction* of what you now pay.

One newspaper says, "Do not hesitate to refer prospects to us. We will be glad to tell them why we consider it a necessity." Another says, "Would again, under similar circumstances, purchase the equipment." Let us show what others say.

"KLEAN-O-MAT" is already in use by one Hearst daily, a Scripps daily, the U. S. Government Printing Plant, the Canadian Government Plant, etc. Write, giving number of magazines, number operators per 24 hours and wage scale. We will send you a comparative cost analysis that will *astonish* you . . . no obligation on your part.

NATIONAL PRINTING APPLIANCE CORP'N

Western Union Bldg.
60 Hudson St.

Klean-o-Mat PROCESS

New York City
U. S. A.

pears to be too shallow and therefore exposes the lamp bulb either to the eyes of the operator using the machine, or to adjacent operators. There is a tendency to manipulate the half-shades in an endeavor to cover large copy. Shades have been tried out which are somewhat larger and wrap further around the lamp at the sides, and with the bottom left open to allow more light downward. It is considered that a positioning pin incorporated in the shank might prevent undue manipulation of the light.

The greatest weakness in the lighting of the average linotype room is the almost complete absence of general overhead lighting. This makes for extreme contrast and is trying to the eyes, which cannot adjust themselves to such wide variations without ultimate injury. Furthermore, an unnatural and cheerless atmosphere obtains. Totally indirect or luminous-bowl lighting of the same intensity as specified for the office space is ideal. If used with an acoustic ceiling material of high reflection factor, a double gain (in ear and eye comfort) is assured. Incidentally, such lighting assists materially in locating and correcting machine troubles and changing magazines.

As regards the monotype keyboard, the same remarks apply. Some printers avail themselves of the special justification-gauge light sold by the Monotype Company, while others endeavor to get along without it. Considering the very fine detail on the gauge this light is considered an absolute necessity.

In general the monotype casters have been found lighted with dirty tin-cone shades and 60 to 100-watt lamps. It is almost impossible to see the necessary adjustments under such lighting. A 300-watt industrial enclosing glass unit hung directly over the caster with a 3-light lamp (200-300-500-watt) and four-point switch is recommended.

As regards the proofing press, the same type of equipment with 300-watt lamp and daylight correction glass is recommended. It should be mounted on the operator's side of the press directly opposite the delivery and not more than 6 feet 6 inches from the floor.

Lighting of Press Operations

The Press Room—Consider the typical two-revolution flat bed cylinder press. There are several points on such a press where discrimination of fine detail is demanded. First there is the bed of the press where underlaying, interlaying, straightening up, change in lock-up, etc., are carried on. This work requires at least as good light as the printer has at the imposing stone or type case, but as a matter of fact is generally one of the poorest lighted spots in the establishment. The typical equipment found was a bare lamp, 40 to 100-watt size, hung from the underside of the feed-board without shades or reflectors.

In many cases the lamps are hitched temporarily to a hook and when more light is needed the pressman unhooks the lamp and holds it close to the form. Accidents of the following types are said to be of common occurrence: a pressman laid the lamp with the wire guard on the form. The guard was connected to the live side of the circuit. There was a flash. The pressman narrowly escaped a serious burn and an electrotype that was locked up in the form was completely ruined. Serious personal injuries have occurred from the same cause. These bare lamps furnish anywhere from a fraction of one foot-candle up. The average of all readings at this point was 8.3 foot-candles. The bare lamp is not only a source of danger but it is especially ineffective in lighting the work.

For effective seeing, the pressman needs a large-area, low-brightness light source, such as recommended for the imposing table and type case, but the low head

Blatchford METAL

E. W. BLATCHFORD COMPANY
A TOWER OF STRENGTH
REPUTATION
EST'B 1854 INCO. 1890

LINO
MONO
INTERTYPE
LUDLOW
AUTOPLATE
STEREO

E. W. BLATCHFORD COMPANY
900 West 18th Street
CHICAGO
63 Park Row
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IN YOUR PLATE MAKING DEPARTMENT

1 The Elimination of NITRIC ACID.

2 One Bite Halftones.
Five and Six 1/1000s.
No Powdering—No Undercut.

3 Precision Depth.

4 Holding all color and detail.
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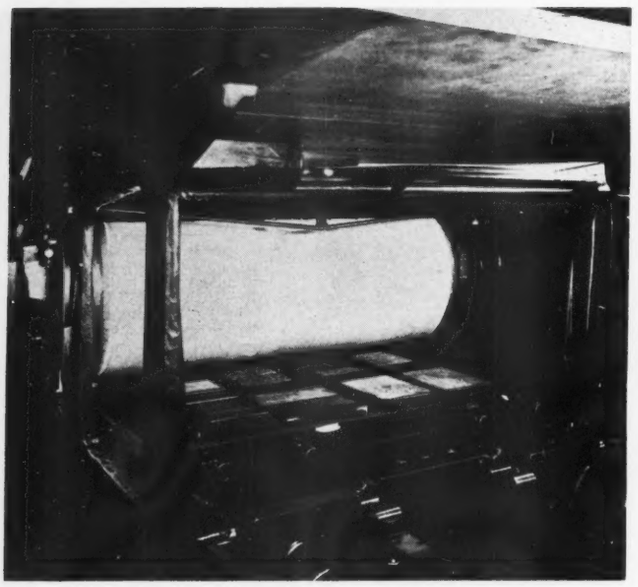

Fig. 10—Light without glare for bed of press.

room under the feed-board practically eliminates such equipment. Fig. 10 shows a solution, using fixed shaded lamps and reflecting strip now successfully in use in several plants.

The average illumination furnished by two of these under feed-board units of 100 watts each is 18.2 foot-candles. The area of the light source has been extended by a metal reflecting strip. The limited space available for the device determined the shape. One of the units is equipped with a built-in switch which controls both lights. The pressman, when he gets under the feed-board, may block one of the lights but he can scarcely block both at the same time, so the two are on one switch and at least two should always be used.

For lighting the feed end and cylinder of a two-revolution press, the industrial enclosing glass unit (extensive light distribution) with the new 3-light 200-300-500-watt lamp and four-point switch is recommended.

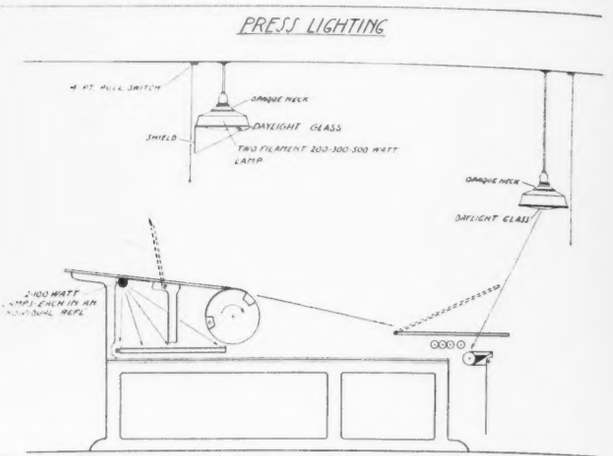

Fig. 11—Illumination of two-revolution flat-bed letter press. Ink fountain in this particular case reached by regular delivery end fixture.

This 3-light lamp looks like any other bulb but it has two filaments which may be used separately or in combination to produce three intensities of light. In setting the guides, grippers, vacuum cups, etc., the 300-watt capacity giving approximately 70 foot-candles would be

(*Continued on Page 109*)

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Cecil Rubber Roller Finishing Equipment will provide the essential accuracy in your rollers, for faster and better printing.

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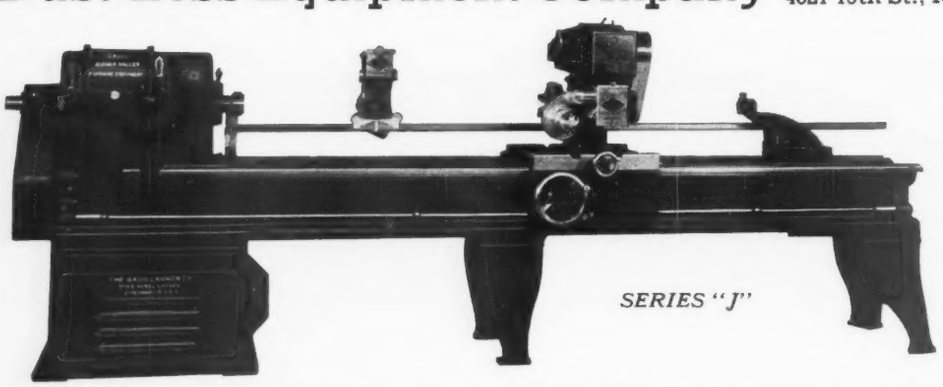

SERIES "J"

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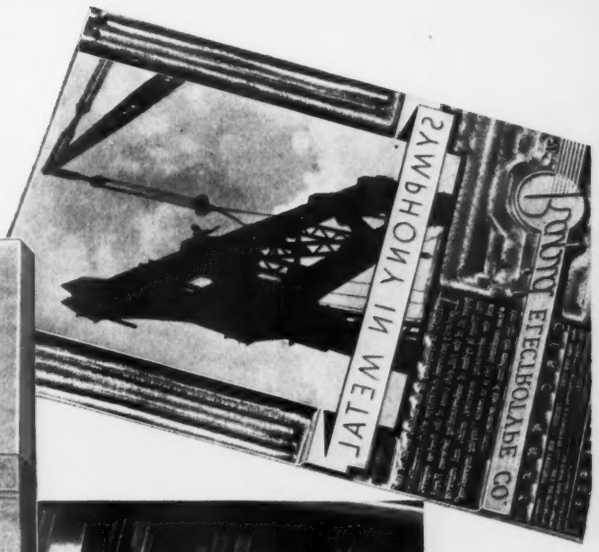

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Patents

For Composing Machines Include Improvements in Slug Casting

MARCH-APRIL

Composing Machines:

2,035,064. TYPOGRAPHICAL SLUG CASTING MACHINE. William Fairall Gorse, Altrincham, and Richard Henry Scott, Enfield, England, assignors to Linotype and Machinery Limited, London, England, a company of England. Application March 17, 1934, Serial No. 716,114. In Great Britain April 6, 1933. 16 Claims. (Cl. 199—50.)

1. In a typographical slug casting machine, the combination with a pair of line clamping jaws and a periodically operated device connectible to at least one of the jaws and operable to effect inward movement of the connected jaw towards a composed line located between the jaws, of an abutment on the device, a slide adjustable relatively to the device, a stop on the slide located in the path of the said abutment, a lever turning on a fixed pivot and a projection on the lever intermediate its ends engaging a forked member secured to the slide.

2,035,076. SLUG CASTING MACHINE. George P. Kingsbury, Hollis, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application August 28, 1934, Serial No. 741,767. 18 Claims. (Cl. 199—50.)

1. In a slug casting machine, the combination of a pair of relatively movable line clamping jaws, and mechanism for moving one of the jaws inwardly from its line receiving position to a quadding position, the mechanism including motion transmitting devices self-operative to lock the jaw in the position to which it is moved.

2,035,077. SLUG CASTING MACHINE. George P. Kingsbury, Hollis, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application April 1, 1935, Serial No. 14,023. 28 Claims. (Cl. 199—50.)

1. In or for a slug casting machine equipped with a pair of line clamping jaws, a matrix composing hand stick designed for support in casting position in the machine and formed to permit the line clamping jaws prior to casting to clamp matrix lines of different lengths.

2,035,078. SLUG CASTING MACHINE. George P. Kingsbury, Hollis, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application August 14, 1935, Serial No. 36,054. 29 Claims. (Cl. 199—50.)

1. In a slug casting machine, the combination of a pair of line clamping jaws, one movable toward the other for quadding, means including a screw section for effecting such quadding movement of the jaw, and means for thereafter separating the jaws for a limited distance to permit justification.

2,035,214. PRINTING TYPE. Joshua Bailey, West Bromwich, England. Application November 30, 1934, Serial No. 755,262. In Great Britain October 6, 1933. 3 Claims. (Cl. 101—398.)

1. A printing type having a body of orthodox width and suitable for use in a key-operated type-setting machine, a printing character on the surface of the body but offset from the centre thereof, and a shank projecting from the underside of the body, the body having a recess disposed at the side of the printing character to allow of a portion of the body to be detached.

2,035,421. VISE JAWS FOR TYPOGRAPHICAL MACHINES. John E. Blair, Oak Park, Ill., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application July 18, 1935, Serial No. 32,114. 9 Claims. (Cl. 199—50.)

1. In a slug casting machine having a pair of opposed vise jaws adapted to be set at different distances apart to receive full matrix lines of different lengths presented endwise between the jaws, matrix line engaging members on the opposed ends of the respective jaws having means for moving them selectively into and out of operative position, and means for moving either or both of the members into engagement with the ends of a short matrix line to locate and clamp such line centrally of the space between the jaws.

2,035,444. SLUG EJECTING MECHANISM OF TYPOGRAPHICAL SLUG CASTING MACHINES. Christian Augustus Albrecht, Berlin, Germany, assignor to Mergenthaler Linotype Company, Brooklyn, N. Y. Application November 28, 1934, Serial No. 755,128. In Germany December 22, 1933. 14 Claims. (Cl. 199—60.)

1. In a typographical slug-casting machine, the combination with a mold and an ejector operable to eject a cast slug from the mold, of a yielding abutment adapted to bear against the face of a slug during its ejection from the mold in opposition to the pressure of the ejector on the base of the slug, and means adapted to hold the abutment stationary when the pressure is released.

2,035,807. ASSEMBLING MECHANISM OF TYPOGRAPHICAL COMPOSING MACHINES. Vernon Charles Joseph Harrison, Timperley, England, assignor to Linotype and Machinery Limited, London, England, a limited liability company of Great Britain. Application August 1, 1935, Serial No. 34,123. In Great Britain August 10, 1934. 6 Claims. (Cl. 199—27.)

1 In a typographical line composing machine, the combination of an assembler having a channel wherein matrices are composed in line, the assembler being movable from line receiving to line delivering positions, a matrix retaining pawl adapted to engage an ear of a matrix at the entrance end of the channel when the assembler is in the line receiving position, and means adapted automatically to move the pawl inwardly transversely of the channel during the movement of the assembler from line receiving to line delivery position, into engagement with a matrix ear located in advance of the entrance end.

2,036,000. PHOTOGRAPHIC TYPE COMPOSING. Edmond Uher, Munich, Germany, assignor to Uhertype Aktiengesellschaft, Glarus, Switzerland, a corporation of Switzerland. Application January 17, 1935, Serial No. 2,155. In Germany January 23, 1934. 6 Claims. (Cl. 95—4.5.)

1. A photographic type composing process for producing the representation of the printing surface in its made up or page form which comprises photographically setting up step by step type matter in the form of lines or like letterpress units ready for reproduction directly on a common light-sensitive carrier in groups one below the other with a constant optional line spacing to form a roughly set up column, the common carrier being provided

with gauging means arranged according to a system of two co-ordinates for each of the letterpress units for locating the letterpress units accurately in correct relationship with respect to one another during their photographic reproduction, the gauging means being arranged in alignment one below the other in the direction of the one co-ordinate and being parallel to one another in the direction of the other co-ordinate.

2,036,267. CASTING MEANS FOR LINE CASTING MACHINES. Herman R. Freund, Brooklyn, N. Y., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application March 26, 1935, Serial No. 13,137. 19 Claims. (Cl. 199—47.)

1. In or for a slug casting machine, a slotted slug casting mold having a recess extending across the face longitudinally of and intersecting the mold slot, and a pair of vise jaws movable longitudinally of the face of the mold and having casting faces cooperative therewith, at least one of the jaws having a continuous longitudinally extending rib projecting from its casting face to cooperate with the recess in the mold face.

2,036,282. MAGAZINE SHIFT FOR LINE CASTING AND COMPOSING MACHINES. Edward S. Larson, Chicago, Ill., assignor to Teletype Corporation, Chicago, Ill., a corporation of Delaware. Application January 8, 1934, Serial No. 705,646. Renewed March 28, 1935. 19 Claims. (Cl. 199—19.)

1. In a linecasting and composing machine, a plurality of matrix storage magazines, a set of matrix release elements, means for associating the elements with each of the magazines, apparatus responsive to stored signals for actuating the associating means, and a delay mechanism for suspending the performance of the associating means in its response to the stored signals for the duration of a predetermined time interval.

2,036,893. SLUG CASTING MOLD. Ashton G. Stevenson, Chicago, Ill. Application December 3, 1934, Serial No. 755,810. 21 Claims. (Cl. 199—55.)

1. A slug-casting mold comprising a base adapted to be secured stationarily to the face of a mold wheel forming part of a line-casting machine, a cap, means mounting the cap for opening movement in an upward and rearward direction, the base and cap having their surfaces adjacent each other complementarily formed to provide a casting space which includes means for forming a line of weakness longitudinally of the slug and adjacent one side on the latter together with an aligning groove substantially parallel with the line of weakness, in combination with means operable against the cap to impart opening movement thereto.

2,037,095. TYPOGRAPHICAL MACHINE. Anthony J. Stouges, Queens Village, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application May 19, 1933, Serial No. 671,831. 6 Claims. (Cl. 22—70.)

6. In combination, a pot containing a bath of molten metal, a reciprocable plunger rod so positioned that the lower end remains below the level of the bath and a central section is alternately carried below and above the level of the bath during the reciprocation of the plunger, and a metal shield having a section of relatively great mass which surrounds and which is secured to the lower end and a relatively thin section which surrounds and which is spaced from the central section.

2,037,204. MOLD FOR TYPE CASTING MACHINES AND THE LIKE. George Herbert White, Hartford, Conn., assignor to Chester A. Macomic, Chicago, Ill. Application April 17, 1935, Serial No. 16,842. 22 Claims. (Cl. 199—6.)

1. A mold for typecasting machines and the like comprising two opposed parallel plates, means for moving them toward and from one another along parallel lines, an ejector carriage mounted for slidable movement upon both of them independent of their relative movement along a line perpendicular to their line of movement.

2,038,243. MEANS FOR PRODUCING RAISED PRINTING FOR THE BLIND. Samu-el Ish-Shalom and Otto I. Bloom, New York, N. Y. Application November 2, 1935, Serial No. 47,921. 2 Claims. (Cl. 199—66.)

1. Matrices or matrix sections for producing slugs for reading by the blind by tactile sense adapted to be used either singly or combined to produce the characters of a font for use in a line-composing machine, comprising a series of different matrices of seven or less matrix sections having circular depressions rounded at the bottom on the longitudinal axis of the face, the arrangement of the depressions on the various sections being different, the sections being used singly or two or more of the sections adapted to be associated set-wise to produce complete characters and to produce a justified slug for embossing for reading by the blind.

Feeding, Folding, Delivery:

2,038,452. COMPENSATING DEVICE FOR WEB FEEDING MACHINES. William E. Sharkey, Middletown, and Ralph S. Thompson, Hamilton, Ohio, assignors to The Raymond Bag Company, Middletown, Ohio, a corporation of Ohio. Application November 19, 1930, Serial No. 498,614. 14 Claims. (Cl. 271—2.6.)

1. In a machine comprising a device to operate on a web of material at a predetermined location with relation to each of a series of imprints on the web, and means for normally feeding the web of material to the operating device with the imprints in proper relation to the operating device, the web having an aperture arranged in definite relation to each imprint, normally inoperative means for varying the speed at which the web of material is fed to correct a variation in the position of the imprints with relation to the operating device, an electrically operated device to initiate the operation of the speed varying means, a second electrically operated device to interrupt the operation of the speed varying means, a detector comprising two parts actuated in timed relation to the operating device and adapted to operate through apertures in the web to control the circuits for the respective electrically operated devices, and means for reversing the connections between the parts and the electrically operated devices, whereby either part of the detector may be caused to control either of the electrically operated devices.

2,037,806. PAPER AND WEB HANDLING MECHANISM FOR PRINTING MACHINES. Harry Little, Rye, N. Y., assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application April 8, 1933, Serial No. 665,077. 15 Claims. (Cl. 271—2.1.)

1. A pneumatic paper directing and advancing mechanism for a rotary printing machine, comprising means having an elongated passageway, air blast conducting means arranged at one end of the passageway, air blast exhausting means arranged at another end of the passageway, and dampers hinged to opposite sides of the passageway for admitting air to regulate the air pressure therein.

2,037,469. FOLDING MACHINE. Charles Alonzo Harless, Oak Park, Ill., assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application March 20, 1934, Serial No. 716,496. 22 Claims. (Cl. 164—66.)

21. In combination, a pair of cutting cylinders, a guideway with its entrance near the cutting locus, and guiding means for the web including a shaft mounted on a cylinder, a plurality of resilient web engaging fingers mounted on the shaft, spring means acting to rotate the shaft and to flex the fingers under tension, and a cam mechanism for governing the rotation of the shaft.

2,037,353. WEB CONTROL FOR PRINTING PRESSES. Isidor Tornberg, Plainfield, N. J., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application November 18, 1932, Serial No. 643,194. 4 Claims. (Cl. 242—58.)

3. In a printing press, the combination with means for effecting a splice, of press-driven means comprising a power transmitting member for bringing the fresh roll up to web speed,

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a motor for controlling web tension, and means for disconnecting the press-driven means from the power transmitting member and connecting the motor with the power transmitting member for the purpose described.

2,034,840. APPARATUS FOR ISSUING GUMMED STRIP PAPER SUITABLE FOR USE FOR PACKING AND LIKE PURPOSES. Louis Smith, Kensington, London, England, assignor to Parcelads Limited, London, England, a company of Great Britain. Application December 13, 1934, Serial No. 757,386. In Great Britain December 20, 1933. 9 Claims. (Cl. 101—212.)

1. In an apparatus, the combination of a frame; a spindle; at least one printing roller mounted for rotation on the spindle and normally positioned to engage paper for printing thereon; means mounting the spindle on the frame for rotation and for movements together with the roller towards and away from the paper; spaced projecting members on the spindle; and fixed abutment members with which the projecting members are adapted to engage when the spindle is rotated and being so positioned that, after engagement of the projecting members with the abutments, forther rotation of the spindle will move the spindle and roller away from the paper.

Miscellaneous:

2,036,768. PRINTING INK. Herbert Newall Morris, Broxbourne, England, assignor to Rucel Limited, London, England, a British company. No Drawing. Application June 17, 1929, Serial No. 371,716. In Great Britain July 13, 1928. 1 Claim. (Cl. 134—36.)

A printing ink consisting of a solution containing rubber and cellulose ester, a concentrated color solution containing rubber, cellulose ester and a dye, and a miscible solvent thinner for the rubber and cellulose ester solution comprising two parts butyl alcohol, two parts toluol, one part methyl-ethylene-glycol and one part tetrahy-dronaphthalene.

2,036,480. PRINTING INK. Felix Kaufler and Hilger Peter Schmitz, Munich, Germany, assignors to Dr. Alexander Wacker Gesellschaft fur Elektrochemische Industrie, Munich, Germany, a corporation. No Drawing. Application October 19, 1931, Serial No. 569,846. In Germany April 2, 1931. 6 Claims. (Cl. 134—35.)

6. A printing ink in which the liquid component is free of substantial amounts of benzene hydrocarbons and contains by weight approximately 95 parts of a volatile liquid paraffin hydrocarbon boiling from 80° C. to 175° C., and from approximately 3 to 8 parts of at least one member selected from the group of aliphatic compounds consisting of miscible volatile liquid alcohols with a chain of 3 to 7 carbon atoms and the esters and ethers thereof.

2,035,957. HOT PRESS PRINTING MACHINE. Christian Gabrielsen, Belleville, N. J., assignor to Viking Tool and Machine Corporation, Belleville, N. J., a corporation of New Jersey. Application March 2, 1935, Serial No. 9,057. 9 Claims. (Cl. 101—27.)

1. A hot press printing machine having in combination a vertical reciprocable plunger, means for reciprocating the plunger, a heating element carried by the plunger, a type holder secured to the heating element, a roll of inked strip movable with the heating element, and a strip feed adjusting device movable with the heating element, the strip feed adjusting device comprising a pair of feed rollers, means for rotating the feed rollers operable by the reciprocable movement of the heating element and its associated parts, an internal annular ratchet on one of the feed rollers, and means whereby one or more teeth of the ratchet may be acted upon whereby the amount of rotation of the feed rollers may be controlled.

Offset-Lith:

2,038,352. LITHOGRAPHIC PLATE GRAINING MACHINE. Rudolf Fritsche, New York, N. Y. Application April 22, 1935, Serial No. 17,698. 7 Claims. (Cl. 51—6.)

1. A graining machine, comprising a box adapted to receive plates to be grained, means for moving the box so that a graining action may take place, and a substantially sound-proof cover for the box formed with a portion fitting within the box and with extending members resting on top of the box.

2,031,185. PLANOGRAPHIC PRINTING PLATE AND PROCESS. Arlington W. Stephenson, San Francisco, Calif., assignor, by mesne assignments, to Lensart Company, San Francisco, Calif., a corporation of California. Application March 30, 1931, Serial No. 526,218. 6 Claims. (Cl. 41—41.5.)

5. The process of producing a planographic printing plate which comprises exposing to light through a screen positive a layer of sensitive enamel coated upon a copper plate, washing out the soluble portions, burning in the hardened areas, electro-depositing a non-amalgamable metal on the copper between the burnt-in areas, cleaning off the burnt-in enamel, silvering the bare copper areas only and building up a mercury coating on the silvered areas to a height below the top of the non-amalgamable areas.

2,031,559. LITHOGRAPH OFFSET MACHINE PLATE CLAMP. George P. Daminatis, Cleveland, Ohio. Application February 25, 1935, Serial No. 8,102. 8 Claims. (Cl. 101—415.1.)

1. In a device, a plate adapted to be wrapped around the surface of a roller, the plate having lapped ends, clamps at the ends of the plate, said lapped ends fitting in the clamps and means to attach the clamps to the roller, the means comprising a set of eyelets at the sides of the clamps adapted to engage a set of hooks on the roller.

(Continued on Page 94)

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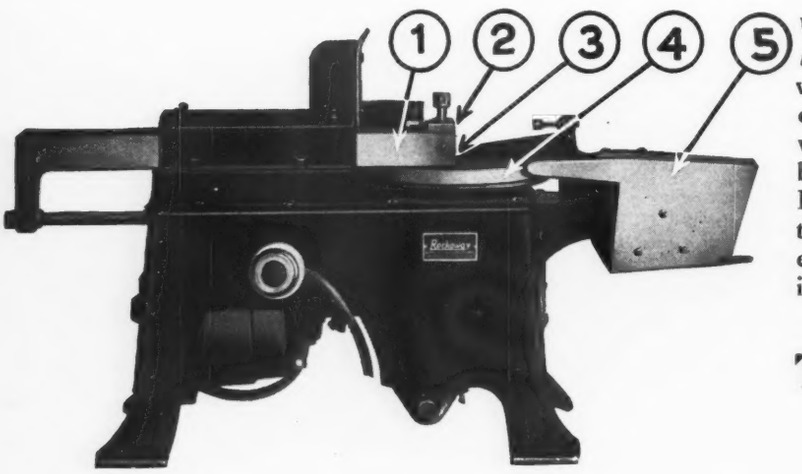

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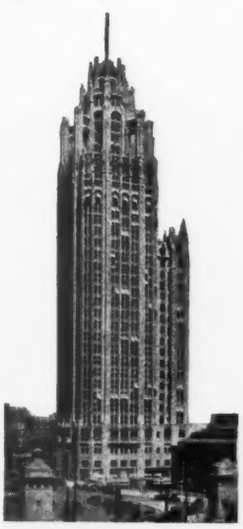

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2,032,770. PLANOGRAPHIC PRINTING PLATE. George S. Rowell, Cleveland, Ohio, assignor to Multigraph Company, Wilmington, Del., a corporation of Delaware. Application January 26, 1934, Serial No. 708,401. 8 Claims. (Cl. 101—401.)

8. A planographic printing plate comprising a flexible backing and a flexible metallic facing consisting of a plurality of cohering zinc globules adhering to the backing.

Plate Making:

19,861. STEREOTYPE PLATEMAKING MACHINE. Joseph J. Walser, deceased, late of Ann Arbor, Mich., by The Goss Printing Press Company, assignee, Chicago, Ill., a corporation of Illinois. Original application September 3, 1920, Serial No. 407,984. Divided and this application March 15, 1922, Serial No. 543,959. Original No. 1,593,110, dated July 20, 1926. Application for reissue July 6, 1935, Serial No. 30,146. 58 Claims. (Cl. 29—21.)

1. A machine for operating on stereotype printing plates including in combination means for holding a curved stereotype plate stationary and means traveling within the concave part of the plate to trim a straight endge thereof.

2,030,920. COLOR ENGRAVING PROCESS. William M. Hensel, Chicago, Ill. Application February 3, 1934, Serial No. 709,623. 1 Claim. (Cl. 95—5.3.)

In a photoengraving process, the steps of making a color selection negative; making a correction negative of the same subject through a dense orange filter, over-exposing to photograph the yellow, reds and magentas as much as possible, and over-developing; making a half-tone dot printing plate from the color selection negative and etching; resensitizing the printing plate with a composition capable of being insolubilized by the action of light; exposing the resensitized printing plate to light through the color correction negative; washing out the soluble portions of the resensitizing composition; and re-etching the plate.

2,031,131. DRIVING DEVICE FOR A MACHINE FOR CASTING STEREOTYPE PLATES. Karl Schaflein, Bern, Switzerland. Application June 13, 1932, Serial No. 616,907. 6 Claims. (Cl. 22—2.)

6. In a machine for casting stereotype plates and the like, having a melting pot, a mold adapted to be moved into and out of cooperative relation with the pot and a valve in the pot for controlling the flow of metal into the mold, a driving mechanism including fluid pressure means whereby the mold and the valve are actuated, timing means associated with the fluid pressure means for controlling the supply of fluid pressure thereto for the purpose of operating the mold and valve in timed relationship, a pressure fluid container, a pump, suction valves for controlling the supply of pressure fluid from the container, and means associated with the timing means for maintaining the suction valves open during the cooling period of a cast plate, to thereby render the pump inoperative.

2,031,132. MACHINE FOR CASTING STEREOTYPE PLATES AND THE LIKE. Karl Schaflein, Bern, Switzerland. Application September 21, 1933, Serial No. 690,414. In Germany November 11, 1932. 1 Claim. (Cl. 22—2.)

In a machine for casting stereotype plates or the like, having a mold and actuating means therefor, a metal supply valve and actuating means therefor, the combination of a drive for the mold and valve, comprising power means, a worm driven by the power means, a clutch intermitted between the power means and the worm, a worm wheel meshing with the worm, a cam surface provided on each side of the worm wheel, gear means mounted within the periphery and on each side of the worm wheel and cooperating with the cam surfaces, and gears meshing with the gear means and arranged to transmit motion of the latter to the operating means for the purpose of actuating the mold and valve.

2,032,453. PRINTING PLATE. Bruce Wells, Chicago, Ill. Application July 28, 1934, Serial No. 737,414. 2 Claims. (Cl. 101—400.)

1. A printing plate in the form of a frame having a set of parallel spaced printing rules with aligning slots cut into the upper edges thereof, and having a second set of transverse spaced printing rules extending transversely to the first-named set of rules, and having aligned slots cut upwardly into the same from their lower edges, the rules being formed of resilient material, the slots of one set of printing rules interlocking with the slots of the other set of printing rules to form joints, and the rules fitting tightly in the slots to form rigid joints and a rigid frame in which the rules are held rigidly in place throughout their entire length, and a set of brace bars extending parallel with one of the set of rules, and having slots aligning with the other set of printing rules, the other set of printing rules having slots interlocked with the slots of the brace bars and fitting tightly therein to form rigid joints.

2,032,541. PICTURE PRINTING PLATES AND ALLIED ELEMENTS, AND METHOD AND STEPS FOR MAKING THE SAME. George E. Losier, East Orange, N. J., assignor of one-fifth to William A. Hughes, Newark, N. J., and four-fifths to Marion L. Losier, East Orange, N. J. Application September 5, 1934, Serial No. 742,715. 12 Claims. (Cl. 101—401.1)

1. A screen effect reproduction adapted for use in the printing arts comprising a multiplicity of four-sided projections, and having a plurality of depressions which are substantially square in plan and whose surfaces are substantially tetrahedral in form.

2,032,750. MANUFACTURE OF PRINTING BLOCKS. Oluf Sinius Hassing, Hellerup, Denmark. Application December 7, 1931, Serial No. 579,575. In Denmark January 16, 1931. 9 Claims. (Cl. 178—5.)

1. Apparatus for purely mechanical manufacture of printing blocks from a blank and starting from an original, comprising the combination of an operating tool, mechanical driving mechanism adapted to impart to the tool a reciprocating motion with strokes of uniform length, and means interposed between the driving mechanism and the tool and participating in the movement of the tool to adjust the mean position of the tool, the means controlled by amplified electric current impulses and adapted to transmit the movement of the driving mechanism to the tool.

2,038,104. STEREOTYPE PLATE. George H. Fuller, Cleveland, Ohio, assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application May 9, 1931, Serial No. 536,135. 1 Claim. (Cl. 101—375.)

A curved stereotype plate having a plurality of series of reinforcing ribs on the back, the ribs of one series being positioned circumferentially of the plate and parallel to each other, while the ribs of the other series are parallel to each other and extend from one side to an adjacent side of the plate.

Printing Presses:

2,034,694. METHOD AND MEANS FOR MAINTAINING WEB REGISTER IN MULTICOLOR PRESSES. Charles F. Dausmann, Hempstead, N. Y. Application May 3, 1935, Serial No. 19,573. 20 Claims. (Cl. 101—181.)

1. A method of maintaining web registration with the spaced printing cylinders of a multicolor press, the step of mechanically gripping the web at a plurality of spaced points across the width thereof and independently of the web feeding means, to hold the web against lateral deviation from its path of movement without sensible resistance to the linear movement of the web.

(*Continued on Page 96*)

The New C.M.C. Job Press

Combining Quality and Speed

INVESTIGATE

this new C.M.C. with its many features!

Speed up to 3,500 per hour

SEE ITS

EASY OPERATION	SPRING CHASE LOCK	FOOL-PROOF GRIPPER BAR
QUICK HAND BRAKE	COVERED FOUNTAIN	SENSITIVE THUMB SETTING
NOISELESS RUNNING	BASE CONTAINER	OSCILLATING VIBRATOR
EASY THROW-OFF	REMARKABLE CONSTRUCTION	
ADJUSTABLE PULL		

and many other features that make this new C.M.C. the most outstanding value ever offered

Press Equipment

furnished with C.M.C. Jobber

● Steel Ink Vibrator—Full Length Fountain—Hand Throw Off—Hand Brake—3 Rollers—3 Extra Cores—2 CHASES—6 ROLLER TRUCKS

Utility Storage space in Base of press for rollers, inks, tools, etc.

A highly efficient job press at a price that is amazingly low.

A sturdy and rugged producer of fine printing.

A press that will be an indispensable addition to your pressroom.

Specifications

● Inside Chase, 7" x 11"—Platen 11½" x 7¾"—Floor Space, 3 ft. x 2 ft.—Height of Press, 54"—3 Revolutions of Fly Wheel to Each Impression—Shipping Weight Complete, 605 Lbs.

C.M.C. Vibrator

● AN OUTSTANDING FEATURE—that puts the finishing touch to complete distribution of inks

A Producer of Profit for Every Shop

CRAFTSMEN "FINGER TOUCH" LEAD AND RULE CUTTER

$28.50

A de luxe machine, perfect in every way

ITS OUTSTANDING FEATURES ARE:

● **"Finger Touch"**—Front Gauge slides on 2 stationary bars. Capacity, 6 points to 46 picas, self locking **Balanced Handle**—Large bearings and tension spring insures increased power, speed and accuracy. **"Finger Touch"**—Bed Gauge slides on square graduated bar, and in two grooves in bed and will not permit thinnest material to slip under gauge. Capacity 60 picas by points in normal position. **Micrometer Point Adjustment**—Self adjusting by points. **Bed Extension Lock**—By merely pulling knob, bed can be extended to a capacity of 100 picas by points, making it one continuous bed. **Adjusting Screws**—For cutting blade, you do not have to use shims behind blade to take up wear of knife.

VICTOR IMPROVED MITERING MACHINE

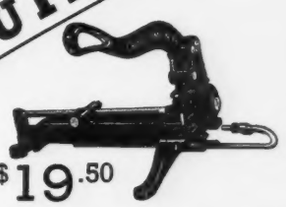
$28.50

A precision-built tool of the finest quality

This machine embodies many new features and is undoubtedly the outstanding mitering machine on the market today. Some of its advantages: It is built of the finest Swedish tool steel insuring long life and rugged qualities. There are no locking nuts to unscrew to change angle, thus much valuable time is saved. Holder locks in eleven different positions. Table is plainly marked and both right and left angle corners can be mitered without changing slide. The point gauge can be set instantly by the "finger touch" method. It self-locks securely and easily and can be set to any point measure up to 60 picas. Knife made of finest Swedish steel to last an indefinite time.

CRAFTSMEN JR. LEAD AND RULE CUTTER

An excellent cutter at less cost



$19.50

● Micrometer Point Adjustment—Self adjusting point gauge, eliminates guesswork. Front gauge—For production cutting (6 points to 55 picas) by points valuable for cutting spaces. Self centering, fool-proof, simple to set. Cutting knife—Made of high grade Swedish Steel, will last indefinitely. Adjusting Screws for cutting blade—To take up wear of knife. Eliminates the use of shims in back of knife. Balanced Handle—Large bearings, strong tension spring. Insures speed, accuracy, and ease of operation. Finger Touch Gauge—Mere pressure of thumb and index finger moves the gauge instantly to required measure on graduated bar. Capacity 60 picas by nonpareils.

SAVE WITH CRAFTSMEN EQUIPMENT

ASK YOUR DEALER FOR DEMONSTRATION

CRAFTSMEN MACHINERY CO.

307 ATLANTIC AVE. **BOSTON, MASS.**

2,035,201. WEB REGISTERING AND CUTTING DEVICE. Elmer L. Smith, Longmeadow, and Edward F. Cornock, Springfield, Mass., assignors to Package Machinery Company, Springfield, Mass., a corporation of Massachusetts. Application April 21, 1933, Serial No. 667,246. 15 Claims. (Cl. 271—2.6.)

1. In a web handling device of the type controlled by the coaction of indicia on the web with a detecting device, that construction of detecting device comprising a light source, a stationary photo-electric cell, a cylindrical shield surrounding the cell and having a light-admitting slit therein, means for forwarding the web along a path in contact with the shield and between it and the light source, and means for rotating the shield around the photo-electric cell and upon an axis extending transversely of the path of motion of the web and at a surface speed substantially corresponding with that of the web as the slit makes contact with the web.

2,035,630. PRINTING PLATE CYLINDER. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application February 8, 1933, Serial No. 655,683. 5 Claims. (Cl. 101—378.)

1. As an article of manufacture, a printing plate cylinder having integral inclined projections on its surface slanting away from the middle of the cylinder for holding the printing plates thereon at points within their surfaces, the projections on one side of the longitudinal middle of the cylinder all slanting in the same direction longitudinally.

2,035,903. DELIVERY MECHANISM FOR ROTARY STEEL PLATE PRINTING MACHINES. Frank C. Marquardt, Brooklyn, N. Y., assignor to American Bank Note Company, New York, N. Y., a corporation of New York. Application March 30, 1933, Serial No. 663,614. 19 Claims. (Cl. 101—417.)

1. A delivery mechanism for rotary steel plate printing machines having a plate cylinder and an impression cylinder embodying therein a supply reel, a rewind reel, guide rollers for a web of anti-offset material passing from the supply reel to the rewind reel, a rewind reel actuating mechanism, a main power train imparting continuous uni-directional movement to the rewind reel actuating mechanism to cause movement of the web in a fixed ratio to the angular speed of the plate cylinder, and including therein a speed reducing mechanism, and connections between the rewind mechanism and the speed reducing mechanism imparting continuous uni-directional movement to the speed reducing mechanism whereby the speed reducing mechanism is automatically actuated to progressively reduce the speed of the rewind reel actuating mechanism to maintain the ratio between the speed of the web and the angular speed of the plate cylinder.

2,036,158. INTAGLIO PRINTING MACHINE. Donald C. McGiehan, Yonkers, N. Y. Application May 17, 1933, Serial No. 671,574. 9 Claims. (Cl. 101—152.)

1. A printing machine of the class described, having a frame, a printing roll, an arbor for the printing roll, a shaft journaled on the frame, drive gearing between the shaft and the arbor, means to ink the printing roll, a platen roll associated with the printing roll, means operable to vary the position of the platen roll relatively to the print roll whereby various diameters of print rolls are accommodated, the frame constituting a machine section, the shaft also constituting a machine section, a doctor for the printing roll, and means driven from the shaft including an eccentric connection to reciprocate the doctor.

2,036,451. INK MOTION. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application October 24, 1934, Serial No. 749,786. 5 Claims. (Cl. 101—350.)

1. In an inking mechanism, the combination of an ink drum and means for transferring the ink therefrom to the printing plates and back to the ink drum at a different point on the ink drum from that from which it was taken, with means for redistributing the ink on the means.

2,037,086. AUTOMATIC WEB GUIDE. William C. Nash, Neenah, Wis., assignor of one-fifth to Mary Jones and one-fifth to Marie Duvall Nash, Neenah, Wis., one-fifth to William M. Nash, Chicago, Ill., and one-fifth to Roy A. Nash, New Rochelle, N. Y. Application July 23, 1934, Serial No. 736,441. 3 Claims. (Cl. 242—76.)

1. A device for maintaining the lateral edge of a continuously advancing flexible web fed from a roll in substantially constant alignment which comprises in combination, rotatable means for supporting the roll, the means being movable to move the roll axially, a feeler mechanism disposed adjacent a lateral edge of the advancing web and movable with transverse movement of the web, an electric switch actuated by movement of the feeler mechanism to complete an electric circuit, a pair of solenoids connected in the electric circuit, an armature disposed adjacent the cores of the solenoids and movable when one of the solenoids is energized, a continuously oscillating U-shaped member carrying oppositely disposed pawls, a ratchet wheel positioned within the U-shaped member between the pawls, the ratchet wheel having oppositely inclined ratchet teeth on each face thereof, means including a screw connecting the ratchet wheel and rotatable roll supporting means whereby the supporting means is moved to axially move the roll when one of the pawls engages and turns the ratchet wheel, one of the pawls being brought into engagement with the ratchet wheel when one of the solenoids is energized.

2,037,181. PRINTING AND COLLATING MACHINE. Wesley P. Shomaker, Richmond, Va. Application October 4, 1933, Serial No. 692,158. 13 Claims. (Cl. 101—216.)

1. In a printing press, a printing mechanism comprising an impression cylinder, a plate cylinder and an endless chain of printing plates, the chain comprising a pair of transversely spaced endless conveyors, means bridging the conveyors for supporting printing plates, printing plates thereon, means at the opposite extremities of the plate cylinder for engaging the respective conveyors so as to cause the plates to travel around the plate cylinder and to be successively presented to the impression cylinder, a hopper for articles to be printed, means for feeding the articles to the printing mechanism, and a second printing cylinder arranged to cooperate with the impression cylinder for applying additional printed matter to the articles.

2,037,833. PRINTING PRESS CYLINDER AND METHOD OF PREPARING THE SAME FOR THE PRINTING OPERATION. Frank Swenson, Teaneck, N. J., assignor to Multi-Lino-Segment Company, New York, N. Y., a firm composed of Isaac Bendow, Joseph Heiz, Frank Swenson, and M. Van McKee. Application February 15, 1935, Serial No. 6,615. 5 Claims. (Cl. 101—410.3.)

1. A printing cylinder having a yieldable surface member, and printing type elements located on the cylinder and disposed radially relative to the cylinder, the inner ends of at least some of the printing elements being partially imbedded in the yieldable member, an eccentric pivoted to the cylinder and exerting a locking pressure which is substantially tangential relative to the cylinder.

2,038,320. PLATE CYLINDER FOR ROTARY PRINTING PRESSES. Charles William Swift, Auckland, New Zealand, assignor to Multichrome Press Equipment Limited, Auckland, New Zealand, a company of New Zealand. Application May 10, 1934, Serial No. 724,973. In New Zealand May 30, 1933. 10 Claims. (Cl. 101—378.)

1. A rotary printing press, comprising a plate-holding cylinder, a center margin ring on the cylinder, dividing the same transversely, the ring being fitted adjustably in a groove in the cylinder, adjustable dogs on the cylinder, defining together with the center ring the outside margins of a sheet to be printed, adjustable quadrants on the cylinder between the dogs and the center rings, the center ring, dogs, and quadrants permitting independent adjustment of the plates on the cylinders, and means in both the dogs and the quadrants for independently locking them in their adjusted positions to the cylinders.

Use

BLACK ROCK EQUIPMENT

For Accurately Grinding and Polishing Rollers

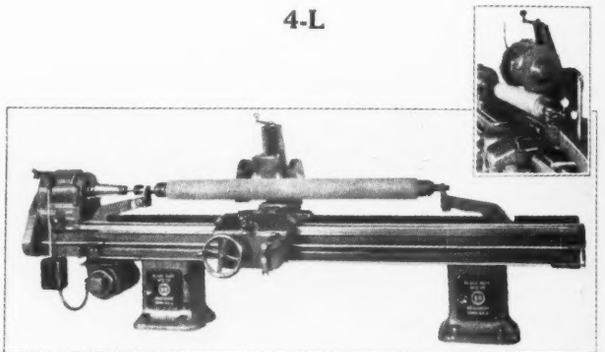
Has your plant considered the economy of an installation of Black Rock Roller Grinding and Polishing Equipment? The Black Rock equipment shown on this page is the finest grinding and polishing equipment available. Each piece has been tested under the most severe conditions on all types of rollers. Write today, telling us your requirements and let us determine whether Black Rock Equipment can save money in your plant.

This equipment may be seen in operation at the Chicago Daily News during the Mechanical Conference. Mr. G. L. Hammond will be at the Palmer House.

Black Rock Manufacturing Co.

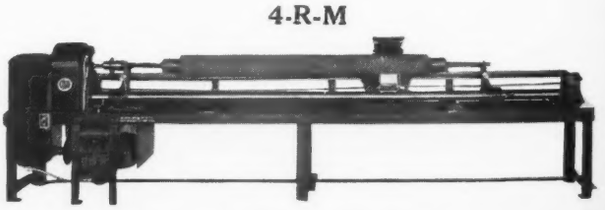
177 Osborn St., Bridgeport, Conn.

4-L

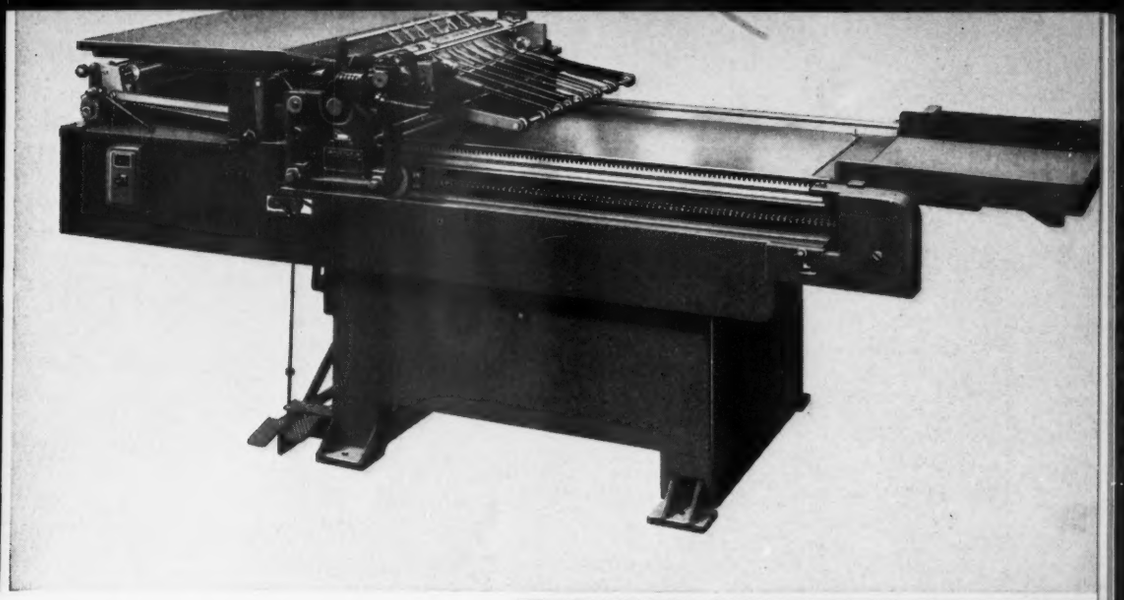


This 4-L Grinder is used by many leading newspapers handling rollers specified for leading presses, including gravure and lithograph rollers. Roller ground at any point from top to back permitting user to grind straight or with crown due to natural sag. Standard attachments for ball bearing rollers. Capacity of 3 to 12-inch diameter and a length from 1 to 9 feet between roller bearings. Consumes 4 h.p. Occupies a floor space of 4 feet by 13 feet 8 inches. Maximum height, 5 feet 4 inches. Sturdily built—does accurate clean-cut work.

4-R-M



This 4-R-M Roller Polisher shown above is designed to rapidly and accurately polish rubber rollers coming within specifications given by leading pressmakers. It eliminates laborious, inaccurate hand polishing and maintains dimensions relative to those produced on our grinder. Capacity, 2 to 12 inches. Length between bearings from 0 to 9'8" Consumes about 2 h.p. Floor space 2'2"x13'6". Maximum height, 4 feet 4 inches.



Improvement

-A VANDERCOOK POLICY

Constant refinements are being made on Vandercook Proof Presses. Perfection is the goal. Changes are in keeping with the demands for speed, better proofs, and minimum operating costs.

No. 325A Vandercook Power Proof Press is made to meet the request of advertisers for good, **big** proofs — economically. It will take a sheet 25" x 27" and print 1000 an hour.

To facilitate operation and eliminate possibility of smash-ups, on the No. 325A Power Proof Press, a new safety device has been added which automatically stops the press when an unusual obstruction is accidentally left on the bed of the press. Other improvements are being added to reduce operating costs.

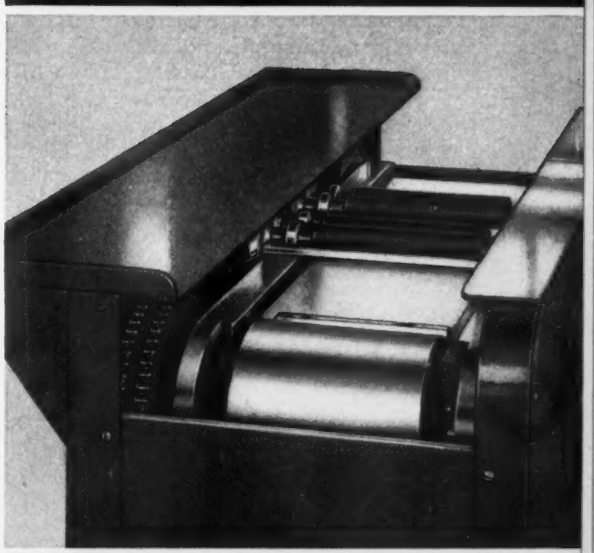
No. 22 Vandercook Electric Proof Press will print 40 proofs a minute, 10" x 18". Though made to prove galleys as they come from the machines, it produces proofs of smaller forms and advertisements of a quality never before approached by a machine of this type.

No. 23 Vandercook Electric Proof Press is similar in construction and operation to the No. 22. It will print 40 proofs a minute, 15" x 30". It will take a full tabloid size page, or a five column advertisement.

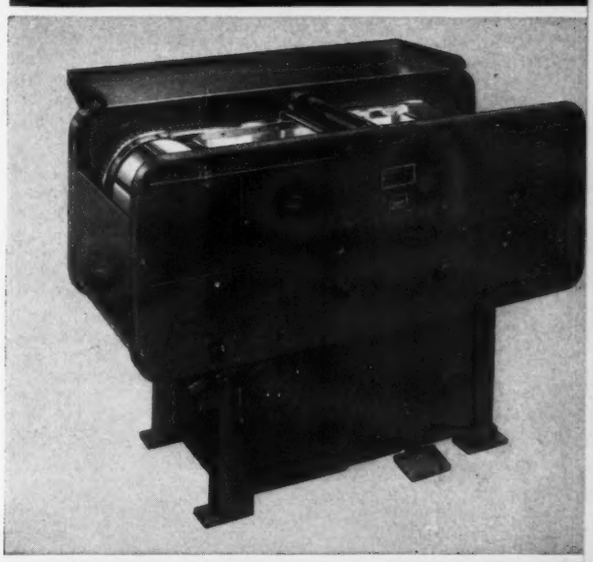
The No. 23 Vandercook Electric Proof Press is essential where speedy production of good proofs is necessary. It is equally valuable for publisher or large printer.

Get the Latest Information. Keep informed on changes that increase production and lower proving costs. Send for circulars on the presses listed or write about any special proving problems. Be sure to visit our booth at the A. N. P. A. Mechanical Conference.

No. 325A VANDERCOOK



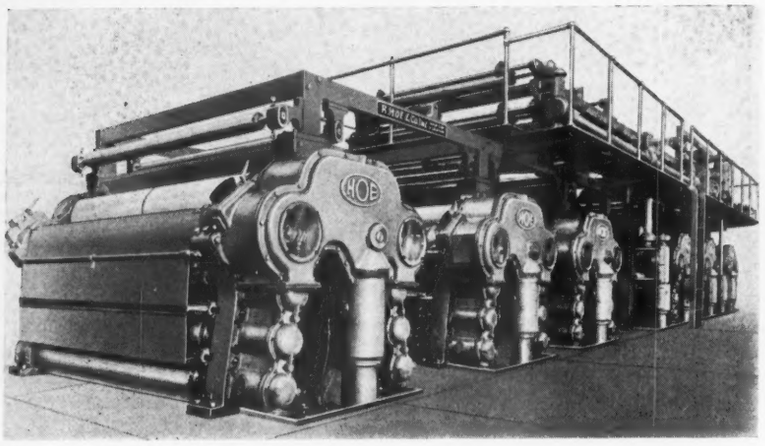
No. 22 VANDERCOOK



No. 23 VANDERCOOK

VANDERCOOK & SONS, INC.
908 North Kilpatrick Avenue · Chicago, Illinois

Originators of the Modern Proof Press



New Hoe Installation

In order to relieve the pressure imposed on its mechanical equipment, due to substantial increases in both advertising and circulation during 1935, the last quarter of which more newsprint passed through its presses than in any previous time in its history, the Richmond (Va.) *News-Leader* recently placed an order with R. Hoe & Co., Inc., for 12 new Hoe Arched-Type Super-Production Units and two new Super-Production Folders and Two-Color Printing Attachments.

The first section of this equipment, consisting of six Units, Folder and Color Deck are now being installed in the *News-Leader* plant. The second and corresponding line is now in the course of construction at the Hoe factory and will be installed as a separate Six-Unit line in parallel with the section now being installed.

Both presses will be mounted on extra heavy cast-iron substructures and arranged for underneath paper roll feed with each paper roll position equipped with Hoe Floating Roller Automatic Tension Devices. Incorporated in these presses are all of the latest Hoe improvements, such as Instantaneous Plate Lock-Up, Patented Automatic Pump System of Ink Distribution with crankshaft drive, Tapered Gear Folding and Cutting Cylinder Drive and are of the anti-friction type with gearing enclosed in oil-tight housings and equipped with sight forced-feed lubrication.

The Two-Color Printing Attachments also have incorporated in their design the latest Hoe high-speed features, including the crankshaft ink cylinder drives, oil-tight gears, etc. With these Color Attachments the *News-Leader* expects to produce daily color in two colors and black at full speed without sacrificing regular black page capacity.

New and Larger Quarters

The New York office of the U.P.M.-Kidder Press Company in charge of W. C. Glass, opened a new and enlarged suite in the Chrysler Building on April 13. The new room numbers will be 3702 and 3703. Telephone numbers have been changed to Vanderbilt 3-4550 and 4551.

The U.P.M.-Kidder Press Company whose plant and main offices are at Dover, New Hampshire, manufacture a complete line of printing presses. Offices are maintained at Chicago, Ill., and Toronto, Ontario, as well as in New York, N. Y.

The time, the place—and the type

Only with foundry types can the typographer or printer keep step today with the demands of advertisers for variety and flexibility in display advertising. Comparative costs of Bauer Types and probable returns in profits indicate that hand composition can be "merchandised" with the greatest possible efficiency. Salability and "turn over" are important considerations in printing. At this time of year, with Spring flowers and fashions in the immediate offing and the Summer need for suggestions of things cool and crisp rapidly approaching, the Bernhard Types are "seasonable merchandise."

THE BAUER TYPE FOUNDRY · INCORP.

235 East Forty-Fifth Street, New York, N. Y. · Telephone: VAnderbilt 3-1374

IMPROVING YOUR NEWSPAPER

The Objective of Every True Publisher

- A newspaper cannot "stand still." Either it grows, thrives and expands its sphere of influence or it passes the zenith of its success.

- It is in the ranks of those newspapers that are satisfied with nothing short of perfection in pressroom results that you invariably find "New England" supplies aiding toward that goal—A Better Printed Newspaper.

- Add to the marked quality found only in "New England" the economies these supplies provide and you have summarized the reasons why they have earned the greatest acceptance and approval in their history.

Make a Note Now—Specify "NEW ENGLAND"

ON YOUR NEXT ORDER OF

Press Blankets of All Kinds—Moulding Blankets
Cork Blankets—Wool Blankets—Rubber Blankets
Moulding Boards—Space Packing Felt, Plain and Gummed
Cutting Rubbers, Press Tapes, Etc.

WE ARE ORIGINAL MANUFACTURERS OF PATENTED PRESS PACKINGS OF ALL KINDS

New England Newspaper Supply Co.

WORCESTER, MASS.

New Things

(*Continued from Page 50*)

Stop for application to Linotype machines. Essentially, the device consists of two parts—a specially shaped line stop to replace the one which has been manipulated by hand by the operator; the other part consists of a shifter to operate the line stop. The shifter is attached as an extension to the elevator transfer slide. When a line is transferred from the first elevator jaws to the second elevator bar, the special line stop shifter pushes the line stop to the right so that the end comes to rest nearly up to the jaw pawl springs. When the operator sends in a line to cast the matrix line automatically pushes the line stop to the left a sufficient distance to guard the line. In this way the operator is relieved of resetting the line stop when he makes a change of measure and at the same time the line stop prevents matrices at the left end of the matrix line from falling to the floor when the first elevator is transporting the matrix line to transfer position.

Further information may be secured from The Linotype Parts Corporation direct or your inquiry may be addressed in care of *Printing* EQUIPMENT *Engineer*.

Balloon-Tired Truck

The newest addition to the Lewis-Shepard Floor Truck line is No. 1595, "Q" type Floor Trucks, illustrated here, with one-piece steel frame, arc-welded throughout, smooth flush hardwood tops steel bound all around, roller bearings in all wheels and casters and equipped with new type, easy-rolling, industrial-balloon tires to save floors and make less noise.

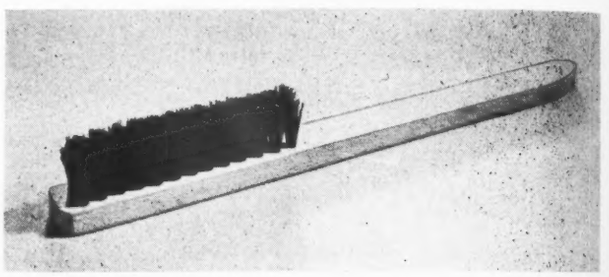
This new balloon-tired floor truck can be made any size, height or capacity, with flat top of wood, steel, or any other material, with or without end racks, push-bar

handles, pipe stakes, shelves, box top or any other superstructure to meet individual needs.

Fully illustrated circular may be had upon application to Lewis-Shepard Co., or to *Printing* EQUIPMENT *Engineer*.

Composing Machine Brush

The Independent Brush Company, Euclid, Ohio, makers of specialty brushes for printing plant use, an-



Specialty brush made purposely for cleaning line composing machine parts to prevent fouling of matrices.

Everlasting Adjustable Delivery Slide Long Finger Block

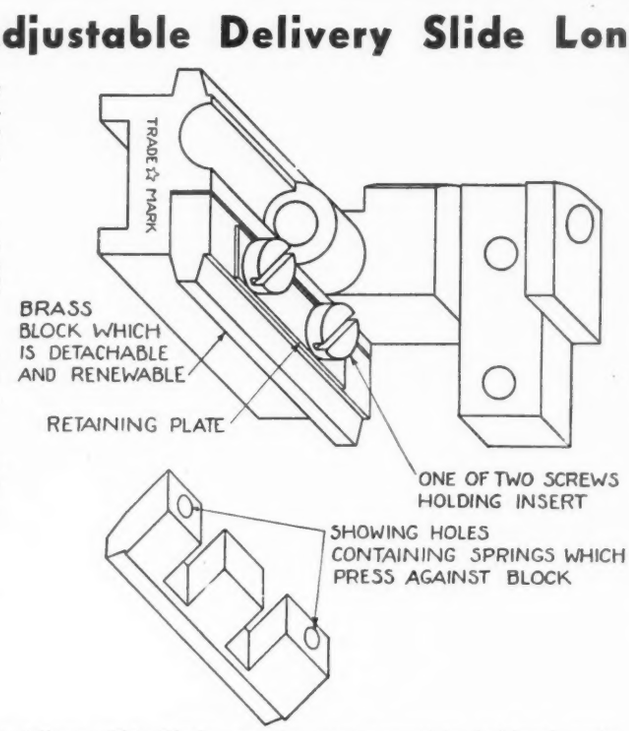
1. *Replacement cost of this block* is completely eliminated. It is *everlasting*. Only the inserts will need infrequent replacement.

2. *Inserts are adjustable*—so that one *insert* will give *longer service than a complete conventional type block.*

3. *Insert has effect of oversize* block to compensate for possible wear in channel.

4. Insert is made of soft yellow brass to save wear of channel.

An Everlasting Delivery Slide Block is Worth at least Ten Times its Cost to You.


TRADE ☆ MARK
BRASS BLOCK WHICH IS DETACHABLE AND RENEWABLE
RETAINING PLATE
ONE OF TWO SCREWS HOLDING INSERT
SHOWING HOLES CONTAINING SPRINGS WHICH PRESS AGAINST BLOCK

A WORN BLOCK ...

tips the long delivery slide finger, causing it to strike the back aligning rail of the Assembling Elevator — endangering the smooth passage of matrices. Also the First Elevator Back Jaw is often prematurely worn by contact with this "tipped" finger. Approximately $50 worth of parts are jeopardized thru failure to replace the long finger block in time.

PRICES

D1636A Everlasting Block, Assembled	$4.50
D1636B Insert, each	.80
D1636C Springs, each	.05
D1636D Screws, each	.05
D1641A Delivery Slide, Assembled, (including Harrington Delivery Slide, Split Finger and Long Finger Block)	18.90

NOTE—Our new long and short delivery Slide Blocks are the most accurately fashioned parts ever offered to the trade. You will be surprised by the ease with which they are fitted to the delivery slide.

Can You Match This Experience? The Meriden Journal (Conn.) reported an Ace Matrix Delivery Belt running 3½ years on a Model 14 machine. They are guaranteed for one year—but, of course, last far longer.

NEW YORK 203 Lafayette St. — **LINOTYPE PARTS CORPORATION** — KANSAS CITY, MO. 314 West 10th St.

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C. S. Illingworth, 49 Springville Avenue, Buffalo, New York

Thompson-Hayward Chemical Co.,
2228 Blake St., Denver, Colo.

Thompson-Hayward Chemical Co.,
909 2nd St. So., Minneapolis, Minn.

Metzger Photo Supply Co.,
1091 So. Main St., Akron, Ohio

G. C. Dom Supply Co.,
125 East Pearl St., Cincinnati, Ohio

A Sincere Apology TO THE *I.P.*

In 1935, *The Inland Printer* published their "Catalog of Equipment and Supplies for the Graphic Arts." In it appeared a classified directory of supply and equipment sources applicable to the printing and allied arts.

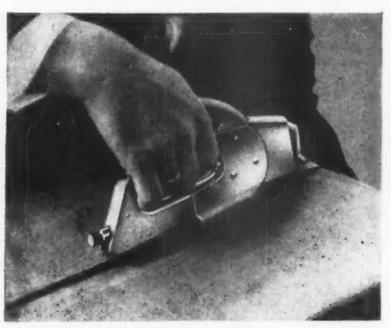
Parts of The Inland Printer directory were reproduced by us in a subsequent issue of our publication commonly referred to as our Catalog Number. This was done without the consent of The Inland Printer and in violation of The Inland Printer's copyright. We therefore respectfully make this public acknowledgment of our error.

PRINTING EQUIPMENT ENGINEER **PEE**

nounces the development of a bristle brush for use in cleaning certain Intertype or Linotype machine parts, such as distributor screws, distributor box and assembler parts. The brush is made from stiff black China bristles set in a flat wooden handle and is of proper size to permit efficient cleaning of machine parts. When used with mineral spirits (type cleaner) or naphtha, grease and other foreign matter detrimental to the proper operation of the machine, is quickly removed.

Paslode Carton Sealer

A tool for sealing corrugated and fibre shipping containers is being introduced by the Paslode Company. The tool is a new type of stapler, called the Paslode Carton Sealer. It performs an operation which, it is said, has never been done before. It will staple the flaps of any corrugated or fibre container of the overlapped type. The device has a special "S" anvil construction which permits it to slide along the overlapped flap and drive the staples from end to end in one operation.



View of Paslode's new type of Carton Sealer. Sealing is accomplished with staples.

New Model Job Folder

The Cleveland Model W Folder has been developed by the Dexter Folder Company. This folder will make all important folds within its size range which is 14 in. by 20 in. max. and 3 in. by 5 in. min. It is said this new piece of equipment is limited only by the folding possibilities of a small sheet size. In addition to the standard work, numerous other types and sizes of folds including short end, parallel, accordion and right-angle work may be executed on the new Model W.

The folder is designed for use with C. & P. Autocylinder, Kelly B and No. 1, Kluge Automatic, Miehle 22x28 Horizontal and Miehle Vertical 13½x20; Miller Highspeed, Masterspeed and 20x26 Miller Simplex, and Webendorfer Little Giant letterpresses. It is also designed for use with Harris and Webendorfer Offset Presses and 20x26 Harris and L. & M. Gravure Presses.

Maximum recommended speeds are: Parallel work, 750 r.p.m. roller speed and 300 ft. per min. paper speed; right angle work, 1625 r.p.m. roller speed and 250 ft. per min. paper speed.

The Cleveland Model W Folder scores, perforates and slits; it may be equipped with pasting attachment for 8-page right angle work, and can be equipped with suction pile feeder.

Further particulars may be obtained from the Dexter Folder Company direct or through *Printing* EQUIPMENT *Engineer.*

Automatic Heavy Duty Truck

A new heavy duty-center control tiering fork truck of 10,000 lbs. capacity with load up to 72 in. long has been announced by The Automatic Transportation Co.

The truck will operate in 94-in. intersecting aisles. The new Center Control feature, it is said, gives this

REAL PRINTERS' ROLLERS—that work and stand up on any kind of printing press

GODFREY PRINTERS ROLLERS
TRADE-MARK REGISTERED

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Dry Mat
TROUBLES

Many Stereotypers have found that FLEX dry mats give less trouble and are easier to work with than ordinary dry mats. Particularly, they are uniform in gauge and shrink—scorch quickly—have excellent stay-back—and make good plates at moderate casting temperatures.

FLEX dry mats can be molded at low pressures, hence are easy on type and cuts. They hold fine detail in halftone work, with good depth, hence are excellent for picture pages. And they cost no more than most other dry mats.

Samples of FLEX dry mats will be sent to you on request. Please specify thickness, shrink, number of casts per mat, and type of casting equipment used.

FLEX DRY MATS

FLEXIDEAL DRY MAT COMPANY, 21 West Street, New York

Hammond TRIM-O-SAW Gears

"Gliding" Table Mounted on Ball-Bearings

Ball-Bearing Saw Arbor

Ball-Bearing Saw-Raising Mechanism

"Kwick-Set" Point Measure Gauge

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Modernistic Chip-Retaining Base

Guaranteed for FIVE YEARS

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Without obligation please send copy of New "Glider" folder and complete details of your Special Introductory Price Offer.

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• Because Herrick Inks are standardized, because they will produce the same exceptional results on the one-millionth sheet as on the first, they have been chosen for years by leading producers of printing. You too, will appreciate the Herrick Quality, if you specify Herrick Inks.

Wm. C. Herrick Ink Co., Inc.

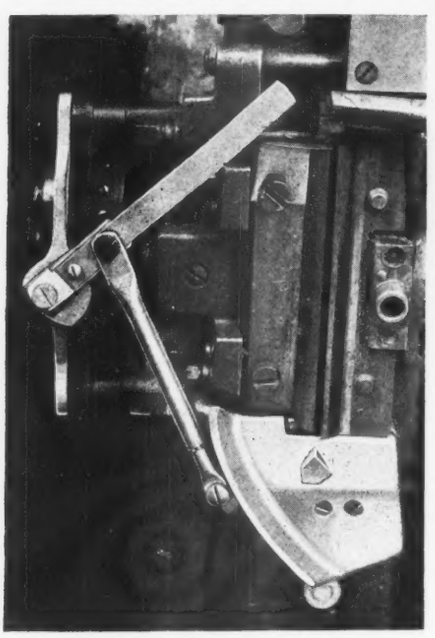
325 West 34th St., New York City
Factory: East Rutherford, N. J.

truck the shortest turning radius of any fork truck of this capacity in the industry. A front-wheel drive is provided for tractive ability on ramps or slippery floors. Thoroughly compact, rugged construction, with operator

fully protected and having clear vision of all operations. The capacity of this truck, along with its high stacking feature and ability to negotiate narrow aisles, enables it to increase storage space and handle heavier loads, therefore cutting down the number of trips per day. This machine is adaptable to handling heavy and bulky types of material of every description.

New Knife Wiper

Shown in the illustration is a new trimming knife wiper for linotype machines equipped with the lever type universal knife block. The wiper is furnished by The Monomelt Company. The aluminum wiper blade shown in the illustration, in removing trimmings from the knives, describes a segment of a circle. A tripping block on the first elevator slide of the machine actuates



Inside view of Linotype vise showing new Knife Wiper ready for operation.

the wiper blade through a lever which is connected to a link attached to the wiper blade. As the first elevator moves during normal operation of the machine, the wiper is caused to make two wiping strokes over the knife edges.

In case a slug should fail to be delivered from between the side trimming knives, the wiper blade stroke would be incomplete. In this case, however, safety springs (one inside the link casing and a coil spring attached to the operating lever) prevent damage to the wiper parts should the operator send in a matrix line when an undelivered slug projects from between the trimming knives.

All principal parts of the knife wiper are constructed from phosphor bronze. The finish is nickel. A trimming deflector, also shown in the illustration, in which is incorporated a lower mold banking block, is part of the wiper assembly.

Redesigned Trim O Saw

Further evidence of the importance of design in industry is offered by the new Hammond Gilder Trim O Saw, manufactured by Hammond Machinery Builders, Inc. The new saw was designed by Harold Van Doren, nationally known industrial designer. The saw will handle solid stereotype casts and linotype slugs with

equal facility, it is said. A number of new features have been incorporated in the redesigned saw.

Incorporated in the saw are the new finger-tip control ballbearing "Glider" table, the micrometer-gauged saw-raising mechanism and the removable, rubber-tired, wheel-mounted chip buggy set into the base of the saw with a dust-proof door. The operator is protected by guards.

All castings are filled and sanded, and the finish is smoothly lacquered. Bright parts of the machine and accessories are chrome-plated to insure against rust discoloration.

STEEL CHASES
FOR
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DIXON'S TRIPLE-ACTION MOLD POLISH

The Quickest—Safest—Most Lubricative Mold Cleaner & Polish

Unless the name TRIPLE-ACTION follows name of DIXON it is not the product of the Joseph Dixon Crucible Co., makers of the world-famous No. 635 Graphite for space bands, etc.

Send for free trial sample or full size giant safety-edged can, mailed anywhere in U. S. A. 75c stamps —stocked everywhere by supply houses. Write for their names.

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LOOK FOR THIS TRADE MARK ON COVER OF RED CAN

A NEW EXPERIENCE IN STEREOTYPING

Do you want to experience a new sensation in mat molding? Then let us send you a "Masterpiece" Creeper Blanket — use it with a Cork Molding Blanket and any Molding Board. This combination gives you results that you **cannot possibly obtain** with your present combinations. We refer to depth of solids, middle tones and type cups or letter bowl. In other words it gives you depth where needed without excess depth in open spaces.

"Masterpiece" Creeper Blankets are made by the manufacturers of Padd-O-Cork and Stere-O-Cork Molding Blankets. They have been tested and approved by leading Stereotypers.

If you want a new sensation in molding, send for a "Masterpiece" Creeper Blanket and try it in your own department, or if you say so we'll send a sample for your inspection. Write today—now!

COYNE & PADDOCK, INC.

(Successors to Paddock Cork Company)

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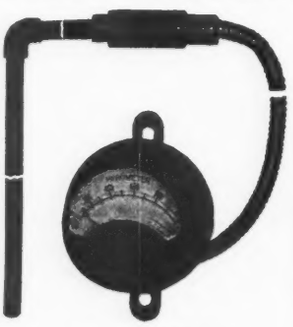
Why Burn Your Metal?

Why waste Fuel?

Why spoil plates?

Why risk expensive delays?

Use an "Alnor" Pyrometer



Metal temperature is vitally important to every newspaper and printing plant.

PRICES $28 to $38 Depending upon size

Why guess when you can equip each stereotype, electrotype or remelting furnace with an "Alnor" Pyrometer for as low as $28.00?

The "Alnor" Pyrometer is accurate, rugged and durable. It can be installed by any shop man in a few minutes.

It pays for itself many times over in the saving of metal, time and fuel to say nothing of improving your printing through better plates.

Write for descriptive bulletin and list of users.

Illinois Testing Laboratories, Inc.

130 W. AUSTIN AVENUE **CHICAGO, ILLINOIS**

New Paper Roll Rewind

A new Paper Roll Rewind equipped with ¾ h.p. motor has been announced by American Publishers Supply. The unit is shipped complete, ready for installation. It is mounted on a heavy metal base which may be bolted directly under the shaft for rewinding. The APS Paper Rewind is built for all web presses.

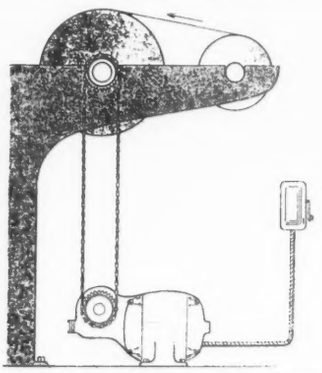


Diagram showing new APS Paper Roll Rewind.

No additional parts are needed at the time of installation since chain, sprockets, collars, steel shafting and starting switch are included as part of the apparatus. Both motor and reducer are complete in a single unit. The motor is supplied for either a.c. or d.c.

Southworth Register Table

The Southworth Machine Company of Portland, Maine, has introduced recently a new register table which, it is said, saves at least 75% of register costs. The Southworth National Register Table is already in operation in many plants and is used for multiple single-color forms, all color forms and ganging of electrotypes

View of Southworth Register Table for aligning, squaring and locking forms.

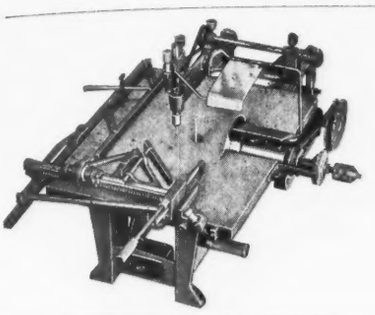
Through use of the table forms are placed in exact alignment before going to press. There is no guess work nor compromise with exactness. Except for makeready forms are ready to run when delivered to the pressroom.

Forms can be aligned, squared and locked up on a Southworth National Register Table. The distinctly marked and calibrated edges of the table and a calibrated T-Square serve as accurate guides. After the form has been planed on the vibrationless bed of the table the pressman rarely has to unlock it on the bed of the press. It is said the table practically eliminates the cost of try sheets and register hazards. The table is of all-metal construction. Manufacturer states there are *no* parts to wear out except cello-proof which can be replaced easily.

Router and Type-High Unit

A router and type high planer attachment for Toledo Saw Trimmers has been announced by the Printers' Equipment Mfg. Co., Toledo, Ohio.

This router is equipped with a quick-acting lever for raising and lowering the router bit, and a vernier adjustment for regulating depth of cut. It is furnished complete with two standard router bits, and one three-fluted bit for type high planing work.



This is the Toledo Saw-Trimmer equipped with new router and type high planer.

When the router is in use, the entire surface of the 18 in. by 22 in. ground table top is clear and free for work. When not in use, the router swings back clear of the table, or can be removed entirely from the machine by loosening two thumb screws. The unit is designed so that the same belt that drives the saw also operates the router by shifting it from one drive pully to the other.

The router can be attached to any model of the Toledo Saw Trimmer, or added to any Toledo now in use.

Air Cooling

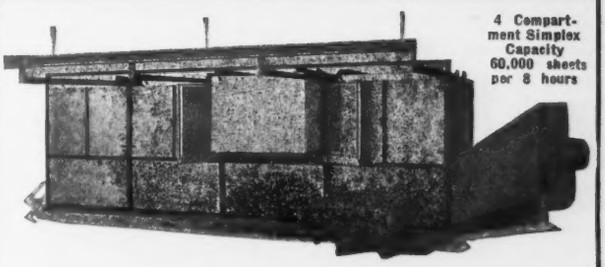
(Continued from Page 66)

on the impeller. This unit is mounted on the intermediate bracket just back of the keyboard. It is driven from a pulley mounted on the intermediate shaft. Two belts connected to a countershaft are used to step up the speed of the impeller. A large size length of tubing is conducted from the blower to a point just below and slightly to the right of the mold resting in normal position. The air stream emitted from the tubing sprays the front of the mold in an angular direction and part of it is deflected across the face of the mold disk.

Plant-Source Mold Cooling

At the Cleveland *News*, John Pecook, chief composing room machinist, has devised a system for cooling molds by air. The air is piped to each machine from a central source of supply under 5 lbs. pressure. The air is brought to each machine by overhead piping from a moisture separator tank. A ⅜-in. drop pipe is run from the overhead main line and extends down to the machine alongside the outer surface of the distributor bracket where it is fastened to the bracket by means of a strap. A ⅜-in. Jenkins valve is applied to the pipe at a point opposite the upper end of the bracket brace. From the Jenkins valve, copper pipe, ½-in. diam., is bent to the proper curvature and extends downwardly along the front side of the brace and through the machine column to a point just below the mold slide at the front of the machine where it terminates in a vertically-positioned and specially designed blower tube.

The blower tube is 6 in. long and is made from the same ½-in. copper tubing which conducts the air from the drop pipe. The upper end of the tube is closed with a brass pellet sweated in place with solder. A No. 52



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Paper Conditioner

Accurate, uniform, dependable Paper Conditioning is obtained with the SOUTHWORTH SIMPLEX PAPER CONDITIONER. It not only saves you time and money but overcomes wrinkling, stretching and shrinking. Satisfaction is guaranteed. Further information and list of users, together with prices, furnished on application.

The SOUTHWORTH SIMPLEX is fully patented.

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Newspaper

. . . big or little . . . will do its best work with

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MATS

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Morley Mats are worth getting acquainted with.

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AYER AWARD WINNERS

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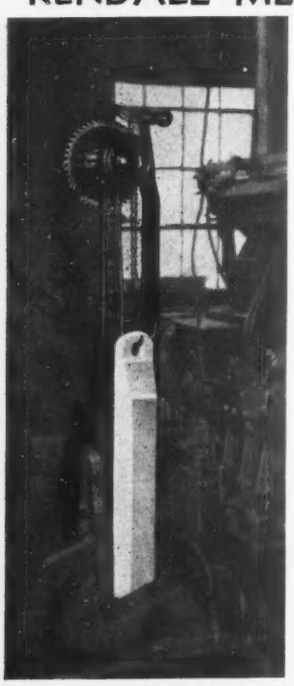

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PRICED AT
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Including 2 Molds

Manufactured and Sold by
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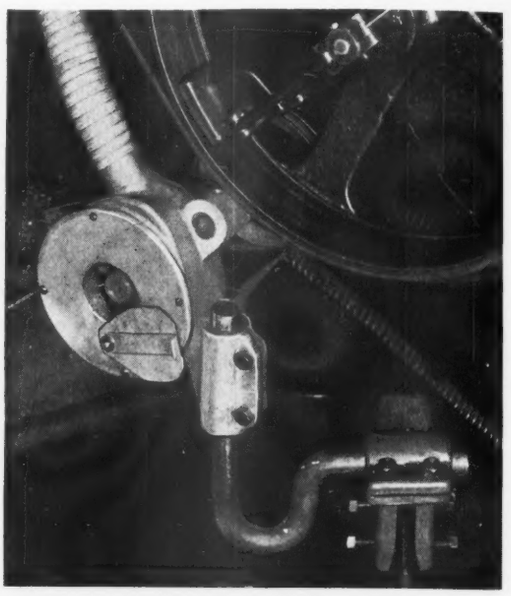
twist drill was used to drill 20 holes spaced equally apart over the length of the 6-in. tube to spray the mold face with air. A 68-8 Weatherhead brass fitting is used to join the tubing to the Jenkins valve. One end of the fitting is supplied with ⅜ in. pipe threads for the valve, and the other end has an opening of suitable size to accommodate the ½-in. copper tubing. A wedge ring is slipped over the tubing and between the fitting and a nut. When the nut is turned up on the fitting the tubing is tightened securely.

In order to bend the copper tubing without crushing its wall, Mr. Pecook wound a steel piano wire spring of proper diameter and sufficient length so the spring



View of Lino Air Flow attached to the right rear leg of a Linotype. The mold cooling blower is operated by pinion connection to the motor driving pulley. A flexible conduit conducts the compressed air to the mold.

can be inserted in the tubing to support the tubing against bending strains while shaping it to conform to the location of the machine parts by which it is supported, as well as to thread it properly through the machine column.

Unit Mold-Cooling

The Linotype Parts Corporation announced recently an individual blower which is mounted on a forked bracket attached to the rear right machine base leg. The bracket is held in place by clamping screws. The bracket is adjustable to locate the blower so that its pinion will mesh properly with the driving gear of the machine through which source of power the blower is driven. A flexible conduit extending from the blower shell and terminating in a 1¼-in. flattened nozzle brings the air stream to the mold base.

Another style blower for air-cooling molds is furnished also by the Linotype Parts Corporation. It is operated from the intermediate shaft and the blower wheel, which is mounted in ball bearings, turns over at 3000 r.p.m. The blower is mounted on the pedestal screws at the rear of the keyboard. On Linotypes, the air is delivered to the back of the mold and on Intertypes the nozzle is brought to a position where the air will flow to the front of the mold cap.

Mechanical executives may obtain through Printing EQUIPMENT Engineer information about where to obtain equipment and supplies.

Lighting

(Continued from Page 88)

used. For regular feeding after press is in operation the low-wattage filament would effect economy. The 500-watt capacity would be used for packing, register, and other work on the cylinder.

Fig. 11 shows the fixture provided with a visor or shield to protect the eyes of the feeder as he sits at the left side of the press. It also protects the eyes of the feeders at adjacent presses. The shield also serves to throw light on the cylinder when the feed-board is thrown back. Approximately 100 foot-candles for makeready operations on the cylinder are suggested.

For delivery end of the press, the industrial enclosing glass unit is recommended with 200-300-500-watt, 3-light lamp and daylight diffusing glassware so as to provide partial daylight correction for color printing. The fixture should *not* be hung over the stack but out beyond as shown in the illustration, Fig. 11. The reason for this will be detailed later. It is not intended that the pressman should depend upon this fixture for accurate color discrimination. The conditions surrounding it make this impractical. For accurate color work (particularly catalog work) it is felt that with artificial daylight intensities below 100 foot-candles a color inspection booth is imperative. With intensities of 100 foot-candles or over, neither booth nor screens are necessary. If the examination table, which should be located convenient to the receiving end of the press, is adjacent to a window where direct sunlight is admitted, an opaque lower sash shade may be drawn up to shield the board from direct sunlight.

Daylight Correction—When an artist makes his color renderings in the studio, or the photo-engraver his color proofs, he does it possibly under north skylight, but more likely he does it near a window which points east, west, northwest, southwest, or some other direction. The sky may be partially or completely overcast, all of which has everything to do with color of daylight, as has also the time of day and the season of the year. The point is that there is no standard natural daylight, although daylight from all of these exposures, even with building and vegetation or foliage reflection contamination, has been considered standard and used by printers without undue color troubles. There are extreme color differences in daylight, as well as a wide range of intensity differences. There are also hours of "average" daylight satisfactory for practically all color printing purposes. This daylight service in cities is rarely available near the presses and is absent on cloudy days, short winter days and at night. Artificial daylight of good quality and ample intensity provided for dark days and night work will also be adequate for all other times as well.

Natural and artificial daylight, as well as Mazda lamp sources, may be rated in color temperature in degrees Kelvin (see I. E. S. *Transactions*, March 1928, pp. 307-310). Mazda lamps in 100 to 500-watt sizes with efficiencies from 15.2 lumens per watt to 19.6 lumens per watt correspond to 2830 deg. K to 2970 deg. K; the 750 and 1000-watt, 19.4 lumens per watt to 20.5 lumens per watt lamps to 2860 deg. K to 2995 deg. K. Mazda daylight lamps have been rated from 3500 deg. K to 4000 deg. K. Direct sunlight (with the sky screened out) ranges from 2000 deg. K after sunrise to 5000-5400 deg. K at noon down to 2000 deg. K again at sunset. Color workers always avoid direct sunlight, but frequently accept sunlight reflected from brick walls across the street as "daylight" yet it is more red than direct sunlight.

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The old hand method against this modern machine.

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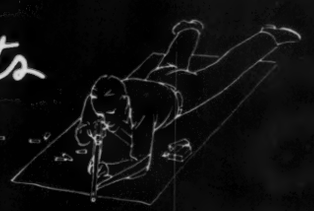

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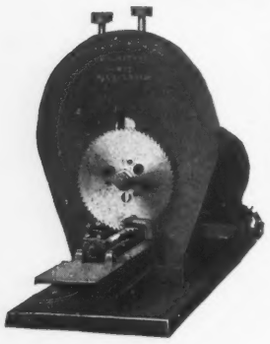

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Rubber

Plates Can Be Molded to Fine Tolerances—Rules for Printing

By Harold Cadmus, Jr.*

THE purpose, use and advantage of molded rubber plates does not lie in the things that you can do successfully now with metal plates, but is in the field of the new, the unusual and the so-called impractical of today. In that field, rubber plates are finding, and will find their true place in the relief printing industry.

It is entirely true that a rubber plate can be made from any subject from which a metal duplicate can be made. But it is also true that the more suitable for molding the original is, the more suitable for printing will be the rubber duplicate. Molded rubber plates will be no more accurate in printing height, register, and other dimensional characteristics than the original from which they are made, but they will maintain these dimensional outlines within 0.01 in. to the foot in all-over length and breadth; within 0.0015 in. to the square foot in all-over printing height, and within 0.0001 in. in screen or fine line depth.

The four fundamental characteristics which differentiate rubber plates from other relief printing mediums are:

(1) Rubber is an organic hydrocarbon—a naturally unstable substance—and although the rubbers used for molded rubber plates are compounded to be practically inert to most conditions and substances, plates (even the so-called oil-resisting plates) are affected by oils to some extent and are not immune to the aging and rotting effects of excessive heat, sunlight and some chemicals.

Introducing Harold Cadmus, Jr., who graduated from Carnegie in 1933 and who has been engaged in the rubber printing plate field since 1934. He is a son of Harold Cadmus, General Superintendent of The Scribner Press, New York City.

(2) Rubber is elastic and prints because when squeezed it exerts sufficient pressure to transfer ink in its attempt to maintain the original shape to which it was vulcanized. This necessary squeeze ranges between 0.001 in. and 0.006 in., depending upon the irregularities in the surface of the stock, the nature of the ink, and the relative hardness of the rubber itself.

(3) Rubber behaves in somewhat the same manner as a liquid, *i.e.*, it maintains a nearly constant volume when distorted by unnecessary squeeze and compensates for

*Rubber Plates Department, New York Electrotyping Company, New York, N. Y. Abstract of address given before New York Club of Printing House Craftsmen, April 16, 1936.

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this distortion by counter-distortion in the line of least resistance, usually along the side walls of the plate.

(4) The last fundamental that has a definite bearing on the rules for printing is this: When distorted or flexed rapidly, rubber develops internal heat in much the same manner as a rapidly flexed wire. When this heat becomes abnormal, due to excessive squeeze, or slur, the oil-resisting properties of the plates are greatly reduced.

Now, in order to favor rubber plates in the same way that you now favor metal plates by careful makeready, constant washups, and perfect press packing, it is necessary to follow six simple rules.

(1) Print with the least possible squeeze which will transfer ink.

(2) Have the surface of the material being printed travel exactly at the pitch line of the press.

(3) Underlay or interlay all plates before they go to press with approximately 0.006 in. of paper. As the run progresses and normal swelling due to oil in the ink takes place, portions of this underlay, a tissue at a time, can be removed. This makes it possible to maintain the minimum of squeeze at all times without disturbing the accurate travel of the plate and stock.

(4) When makeready is required use underlays or interlays in preference to overlays so that the proper packing and pitch line travel will be maintained.

(5) Use semi-hard rollers and soft ink, and have the rollers set so that only the actual printing surfaces receive ink. You will get the best results, and longer life from plates when you have your ink maker supply you with an ink especially adapted to rubber plates.

(6) Clean plates thoroughly when not in actual use by sponging with a soft rag dampened with benzol, alcohol, carbon tetra-chloride or other suitable cleaner. When storing plates dust them with talcum or cornstarch, wrap them in paper and store in a cool place. There is a simple test for the suitability of a cleaner for use on rubber. Put a drop on a piece of calendered paper. If it evaporates rapidly without leaving a stain it is safe to use. Kerosene, roller wash, gasoline or a brush should never be used.

Rollers

(*Continued from Page 70*)

thoroughly cleaned at once after each run. If this is neglected, an ink film may accumulate that can often be removed only by grinding.

The manufacture of rubber rollers is a laminated job. Thin sheets of crude rubber are built up to desired diameter by building layer upon layer. This is then vulcanized by steam under an automatic control system. The curing time varies with the different compounds of rubber. When cured, the rollers are lathe-ground and trimmed.

The chief ingredients used in making rubber rollers are as follows:

Base—Smoked Sheet Rubber.
Corn Oil Factice—Plasticizer.
Sulphur—Accelerator.

Newspaper Rubber Rollers

Newspaper rollers, however, are of the same degree of hardness throughout and are most always made of the same material, *i.e.*, the rubber laminations are built upon the roller core from start to finish from the same material

(*Continued on Page 113*)

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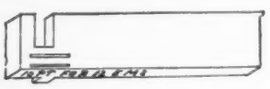

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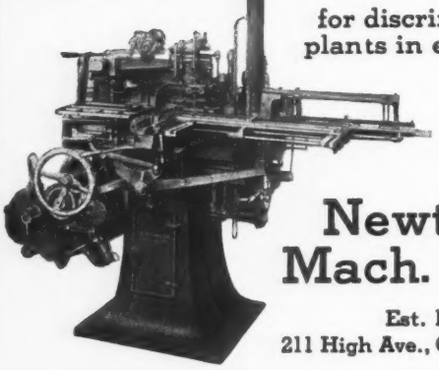

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☐ *Pyro Surface and Needle Pyrometer*—Illustrated bulletin describing pyrometer having several surface and needle elements for use in paper and printing plants.

☐ *Fluid Power Variable Speed Transmissions*—Illustrated technical bulletin describing construction and operation of transmissions for driving and regulating speed of printing presses.

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☐ *Folder*—With halftone illustrations to demonstrate identical printing qualities of both wire and felt sides of book paper made by patented process. The surfaces are made alike by application of a film which is applied as the paper comes from the machine.

☐ *Fibre Board Knife*—Folder discusses a knife made for carving linoleum and rubber printing bolcks; fibre composition board, paper, leather, oilcloth, etc.

☐ *Brush Folder*—Illustrates and describes various brushes for use about composing machinery.

☐ *Today, Printing Demands Automatic Units*—Six-page illustrated folder describing sizes and mechanical features of black and two-color letterpress and unit-type black and color offset printing presses.

☐ *Setting the Pace*—Portfolio showing specimens of Howard Bond, both envelopes and paper samples in colors.

☐ *Advanced Makatag Patch Eyeletting Machine*—Illustrated folder describes mechanical features and demonstrates kinds of uses to which it may be put.

E. P. Hulse Passes

Edward Pierce Hulse, member of the American Society of Mechanical Engineers and a board member of the Graphic Arts Research Bureau, passed away in New York on April 3. Mr. Hulse had specialized in printing engineering (both in equipment design and printing plant layout) for a long period of years. During the World War he organized the publicity work for the National War Work Council in the East. For several years he was head of American Type Founders' merchandise department. In 1927 he became associated with R. Hoe & Co. From 1928 to 1934 he was an associate editor on the editorial staff of the American Society of Mechanical Engineers at headquarters in New York. He was one of the organizers of the Graphic Arts Technical Conference.

Rollers

(*Continued from Page 111*)

and processed to make a homogenous mass of rubber. Newspaper rollers are subject to swelling through contact with mineral oil in news ink. After a time it will be necessary to grind the roller surface to remove the swelling and to restore the concentricity of the roller.

Process Rollers

This roller was placed on the market about thirteen years ago for use on high-speed and multi-color presses. It is a combination of both the rubber or vulcanized-oil roller and a high-grade composition roller. By means of a special machine, a coating of glue-glycerine composition is applied in a molten state evenly over a base roller of rubber or vulcanized oil. The base roller is not affected by atmospheric changes and being surface ground it is said that it will not swell, shrink, melt or become uneven. The coating of composition is of a thickness such that any change due to shrinkage or expansion is not perceptible in operation. Having a thin circumference covering, any heat generated has a chance to radiate readily.

When the surface of a process roller becomes worn out or otherwise disturbed, it is removed by washing off with warm water and a new coating is then applied to the same base.

Synthetic Rollers

There are many different synthetic materials which are essentially rubber-like polymers used in making compounds for synthetic rollers. Most of these are still in the experimental stage, but some have shown themselves to be satisfactory material. The most commonly used synthetic polymers in rollers are: DuPrene, Glyptal and Thiokol. Synthetic rubber-like materials often are miscalled resins, or synthetic rubber, but are only resin-like or rubber-like.

DuPrene, however, could be spoken of as a synthetic rubber substitute, since this material, being made synthetically, does not have the chemical construction nor all of the properties of regular rubber. DuPrene is made from acetylene which is obtained by DuPont from limestone and coke. It is said that salt is applied as a catalytic agent. The acetylene is accelerated by a cupreous chloride which at proper temperatures effects a polymerizing action resulting in DuPrene.

Rollers are now provided which have a rubber base bonded to the metal core or roller stock with an outer coating of synthetic material. These rollers are said to be resistant to most oils and varnishes.

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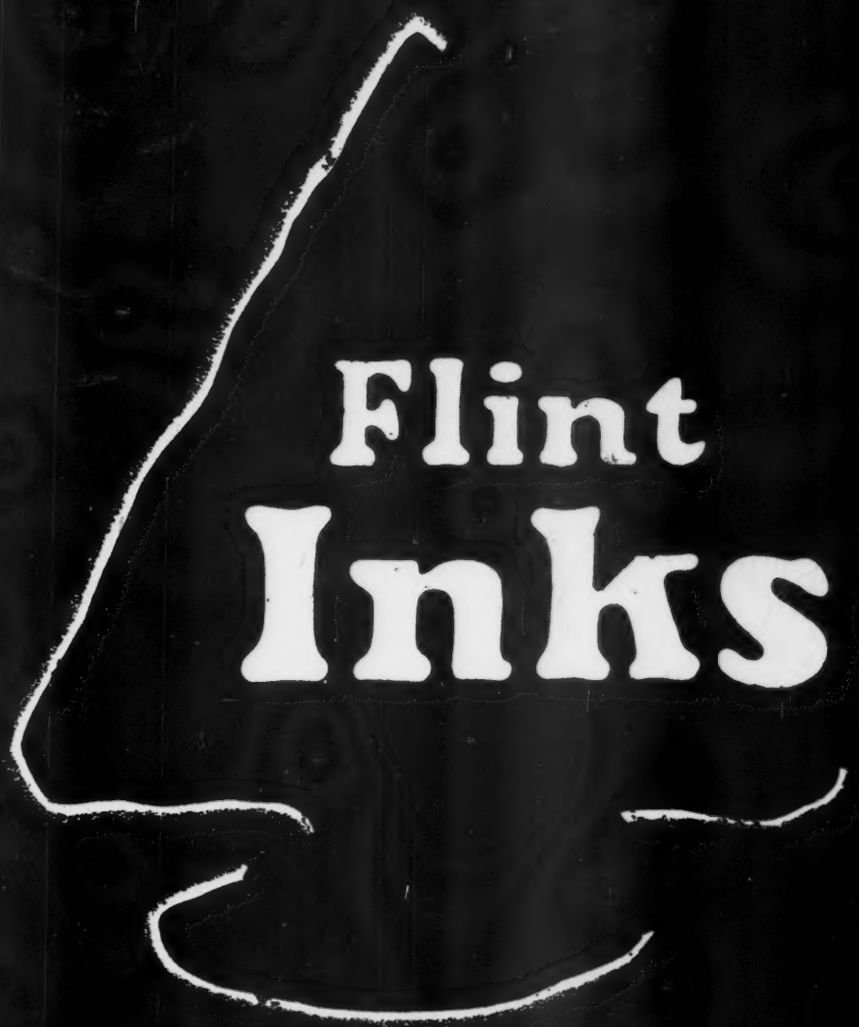

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